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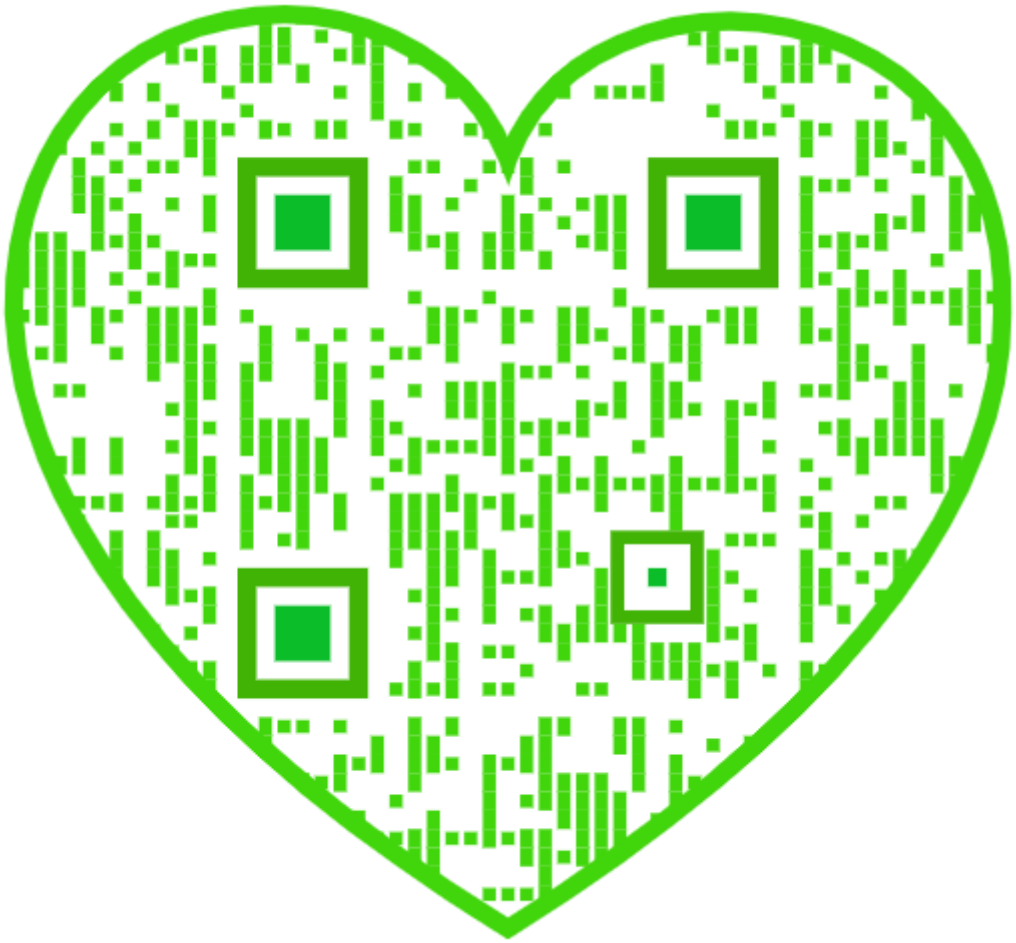

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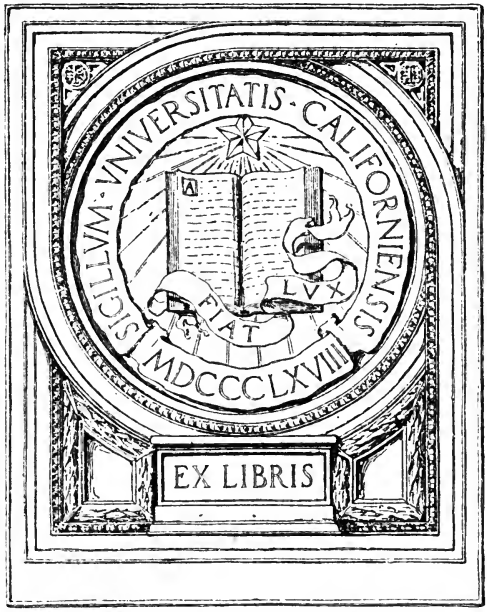
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REFERENCE BOOK
FOR THE
LECTURE

HOME CANNING

BY THE

COLD PACK METHOD

PUBLISHED BY THE

INTERNATIONAL HARVESTER COMPANY OF NEW JERSEY, Inc.

AGRICULTURAL EXTENSION DEPARTMENT

HARVESTER BUILDING, CHICAGO

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HOME CANNING

BY THE

COLD PACK METHOD

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CRITICISMS—Any suggestions for improvement of this book will be appreciated.

Prepared by Grace Marian Smith

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AGRICULTURAL EXTENSION DEPARTMENT
P. G. HOLDEN, Director
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INTRODUCTORY

THIS booklet is intended to describe the essential steps in Cold Pack Canning, and to make the story so simple and accurate that anyone who will follow the directions can can any product successfully. Many friends have assisted with suggestions; special acknowledgment is due O. H. Benson, Office of Extension Work, Northern and Western States, U. S. Department of Agriculture, Washington, D. C., whose original research has done much to advance the industry and simplify the methods of Home Canning.

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To the Lecturer

If a chart lecture has been arranged for, and it is not possible to give a Demonstration of cold pack canning at the meeting, the lecturer should instruct in the Cold Pack method and endeavor to arouse interest in Home Canning. An organization should be effected and a canning demonstration arranged for at a later date.

Canning School—A Canning School devoting a whole day or even several days may be planned. Arrangements for such a meeting should be made several days in advance to be sure that heat, water, seats, utensils, jars, seasonings, and products are on hand.

Publicity—Advertise the meeting widely through the local papers and by announcement at schools, churches, granges, and other public meetings. Handbills may be distributed and announcements posted in public places.

Products to Can—Ask the local people to bring in fruits and vegetables to can, but it is wise for the demonstrator also to provide some products. This latter precaution insures having some products on hand, and the demonstrator by selecting high grade food products is sure of some first class examples of canned goods which will do justice to the method, and which if desired may serve for a permanent exhibit.

A canning demonstration should demonstrate *method;* the demonstrator should not attempt to can up all the fruit and vegetables in the community. Three kinds of products are enough; never use more than four. More makes it difficult to get the products ready, to arrange for sufficient water for blanching, and time for cooking. The small number concentrates attention.

Can one fruit (quick cooking), one root vegetable, tomatoes, and if a fourth is desired, corn, beans, greens, sweet potatoes, pumpkin, or some other vegetable not commonly canned. Consider, too, the time available and do not undertake to can products which cannot be prepared and *canned* in the time given to the meeting.

Assistants—A demonstrator needs two helpers, more are in the way. It is an advantage to have one helper who is familiar with the work so that he can supervise the work of preparing, packing, and cooking the product, maintaining the desired degree of heat, directing the volunteer helpers, and to keep things moving so as to give the audience the most possible in the time spent. This leaves the lecturer free to give all his attention to making clear the steps and driving home the importance and advantage of the canning work.

To avoid mistakes, and secure the best results, the lecturer or his assistant should personally see that the packing is properly done, fit the rubbers and covers, and set the jars in the cooker. Someone in the audience may be designated to keep the time but this, too, should be checked by the assistant. Mark the time on a blackboard if there is one in the room.

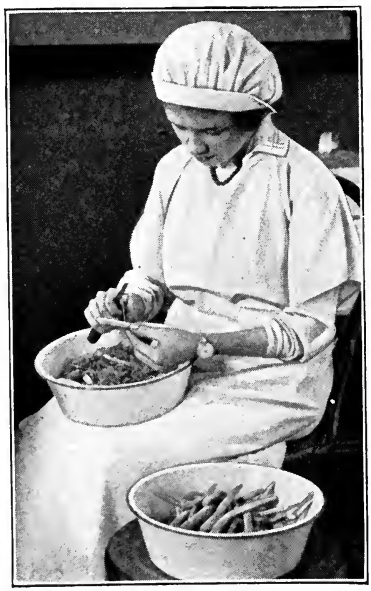
Canning Outfit—A home-made hot water outfit and glass jars should be used for a first demonstration. This prevents the audience from getting the impression that it is necessary to have an elaborate equipment. With a Hot Water outfit each jar can be set in as packed; with a Steam Pressure, the cooker cannot be opened after cooking begins. In giving a demonstration it is sometimes an advantage to have a steam cooker for corn, sweet potatoes, and such other vegetables as require long cooking. A steam cooker makes it possible to finish cooking such products and exhibit the results at the close of the meeting.

Try to locate the canning outfit so that it is convenient to water. If no water is handy, a large, portable tank with faucet, such as is used for patent stock watering troughs, is a good arrangement.

Get Action—At the close of the lecture, suggest, or arrange with a local worker to move, the appointment of a committee to report on the organization of a canning club and to take steps to secure a county canning club leader. A canning demonstration or lecture should never be considered an entertainment. It may give information and arouse interest, but it should also look to some definite work for the year.

CANNING SNAP BEANS—Preparing the Product

1—Wash the beans clean

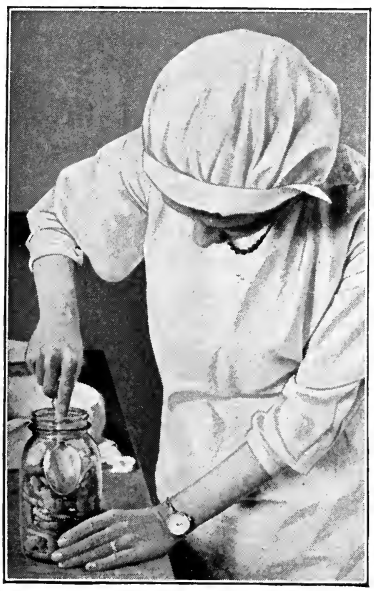


2—Snip the ends and string

3—Blanch in hot water

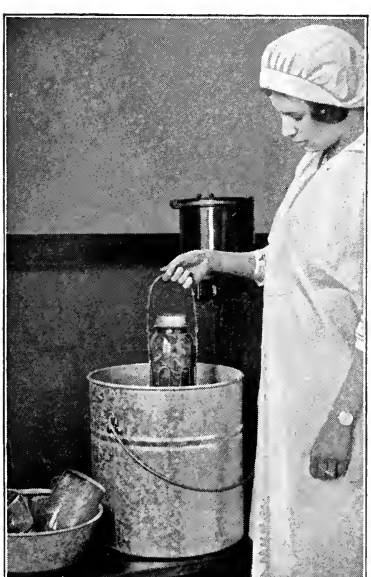
4—Plunge into cold water

CANNING SNAP BEANS—Packing and Cooking



5—Pack close

6—Do not seal tight



7—Cook 1½ hours

8—Seal tight at once

A DEMONSTRATOR'S KIT FOR LOCAL WORK

The demonstrator should carry with her for community and county work, the articles illustrated above. The community in which the meeting is held should furnish two gasoline stoves with two large burners each, gasoline, a long table, chairs, a pail, dishpan, jars, salt, sugar, and produce to can.

Two 2-burner stoves are more convenient than one 4-burner.

The pans and pan lifter pack more easily than a stewpan with a handle. If the jar-holders cannot be secured, a rack of perforated tin or lath as described on Chart IV may be substituted. The rack may also be used when blanching in steam.

It is wise to have on hand some small rubber bands, some heavy cord, tacks, nails, hammer, wrench, heavy paper or oilcloth for covering table, and if canning in tin is to be demonstrated, a supply of cans, solder, flux, sal ammoniac, capper, tipper, hand-sealer, and sanitary seal cans.

Home Canning
By the Cold Pack Method

Cold Pack Canning simply means: **Packing the Product Uncooked and Cooking It in the Closed Jar.**

By this method it is possible for anyone to can at home, in one process, any food product, and know that it will keep.

We waste every year, quantities of the vegetables and fruits grown—string beans, sweet corn, tomatoes, peaches, apples and other products.

COVER CHART

These foods are needed somewhere. Indeed, we need them at home. They should be canned for winter use; or, they may be sold; or given to less fortunate people. A gift of healthful, home-canned food is always welcome.

We Americans are the most wasteful people in the world. We can help in the new movement to promote Thrift by canning the food from gardens and orchards.

In every garden, bushels of tomatoes are wasted every year. If we saved only the tomatoes, that would be well worth while.

Cold Pack Canning isn't a difficult process. The boys and girls of the Home Canning Clubs of the country, directed by the Office of Extension Work of the U. S. Department of Agriculture, are canning thousands of jars of food products by this method.

A member of a Canning Club is expected to plant, cultivate, and can the product from at least a tenth acre of ground. What this means is shown on Chart I.

CHART I

DON'T WASTE IT; CAN IT

Three-fifths of a ton of tomatoes is an average crop from 1/10 acre.

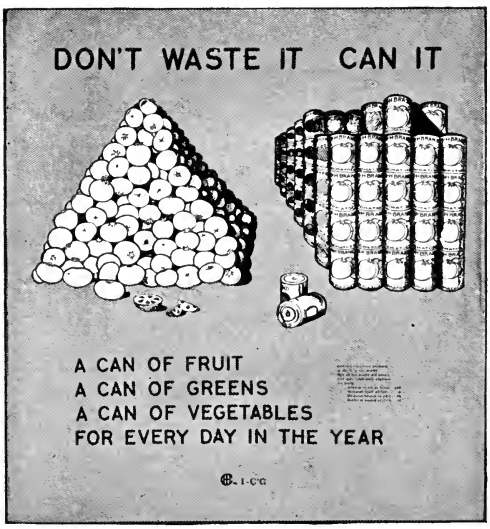


CHART I

They sell fresh at $8 to $10 per ton. Let us say the crop from 1/10 acre is worth $6 wholesale. Three-fifths of a ton of tomatoes canned averages forty dozen quarts, and at the average jobber's price of 75c per dozen is worth $30. Retailed at 15c per can they are worth $72. Such a saving is worth while.

A Can of Fruit, a Can of Vegetables, and a Can of Greens, for Every Family, for Every Day in the Year when the garden is not producing—this is the slogan of the Home Canning Clubs of the United States.

A Canning Demonstration Before the Waveland, Ind., Woman's Auxiliary

CHART II

WHY? WHY CAN IT?

Gives Greater Variety — Is Wholesome — Saves Doctor Bills—We Like It. Canned foods retain the natural juices and flavors, and in addition to being nutritious and healthful, are tasty. We like them.

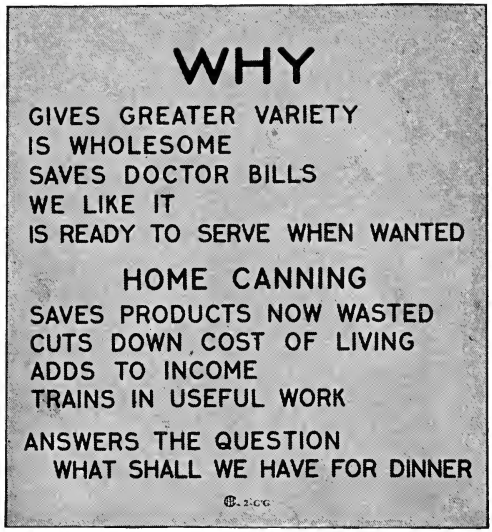


CHART II

A large percentage of the medicines sold are patent laxatives. We could do without most of the patent laxatives if we ate more fresh and canned fruits and succulent vegetables.

Why should we limit our diet to meat, bread, and potatoes three times a day, when tons of fruits and vegetables go to waste?

Our efficiency depends on what we eat. An unbalanced diet means slow, stupid, headachy, ill-tempered people. If we canned more fruits and vegetables, we would eat more of these and less of the heavy foods.

Is Ready to Serve When Wanted— In an emergency—a request at eleven o'clock to have dinner an hour early; unexpected company arriving just as dinner is served; the housewife coming home late after a day spent shopping, or calling, or at church —think of the comfort of knowing that there are on the shelves: home-canned soups, meats, vegetables, greens, fruits, and fruit juices.

If she keeps her shelves well stocked, any housewife can prepare a good dinner any time, in the few minutes required to open the jars and heat the products.

HOME CANNING

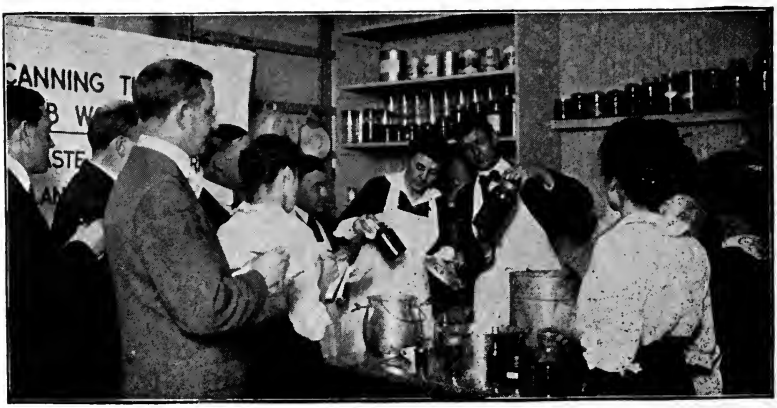
By Home Canning we mean the canning commonly done by the housewife, and also that done by the Boys' and Girls' Clubs, in back yards and on club plots.

Saves Products Now Wasted — Cuts Down the Cost of Living—Adds to the Income. There may be no demand for the fresh products near home because everyone grows some garden. Or, the surplus is so small it is not marketed; or, even if the grower is selling some garden produce, there are the "seconds" which do not sell readily. Then there are the products which are difficult to can—those which would not keep when canned in the old way. Cold Pack Canning at Home will save these foods. Home canned fruits and vegetables reduce the grocery bill. It costs less to can them than to buy them, fresh or canned, and they also cost less than the higher priced, less wholesome foods which might be substituted for them.

Trains in Useful Work— Every boy and girl should be trained to make a living. We learn to do by doing, not by reading how it is done.

A combination of a plot of Ground, a Club Member, and a Canning Outfit has great possibilities.

Home Canning Answers the Question, "What Shall We Have for Dinner?" and answers it in a way that gives a varied menu for every day in the week, and helps make Sunday *a real day of rest,* for Mother as well as for Father and the Boys.



A Group of Club Leaders Training for Field Work, in the Canning Kitchen of the U. S. Department of Agriculture

CHART III

ANYONE CAN CAN ANY PRODUCT BY THE COLD PACK METHOD

How It Is Done—Cold Pack Canning simply means to *scald or blanch and cold dip all vegetables,* pack uncooked, and cook in the closed jar.

Scalding is a familiar term; in canning it is understood always to mean immersing in boiling water, or, steaming.

Blanching is more commonly known as parboiling. It means that the product is left in the boiling water, or the steamer, for a longer period than is indicated by scalding. The time varies for different products.

Cold - dip means plunging at once into cold water and out again.

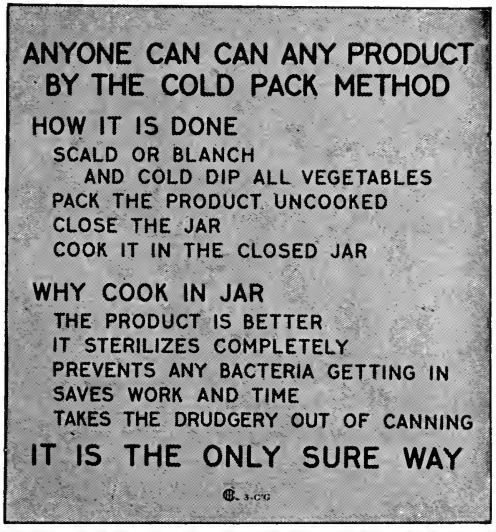

ANYONE CAN CAN ANY PRODUCT
BY THE COLD PACK METHOD
HOW IT IS DONE
SCALD OR BLANCH
AND COLD DIP ALL VEGETABLES
PACK THE PRODUCT UNCOOKED
CLOSE THE JAR
COOK IT IN THE CLOSED JAR
WHY COOK IN JAR
THE PRODUCT IS BETTER
IT STERILIZES COMPLETELY
PREVENTS ANY BACTERIA GETTING IN
SAVES WORK AND TIME
TAKES THE DRUDGERY OUT OF CANNING
IT IS THE ONLY SURE WAY

CHART III

Do not neglect blanching. It eliminates objectionable acids and acrid flavors, makes it unnecessary to exhaust, or use the intermittent process in canning, and is one of the important steps in the "double shock" treatment before cooking. It also shrinks the product.

Bacteria Cannot Get Into a Closed Jar

All vegetables must be blanched and cold dipped. Many of the fruits do not need blanching, but those which are scalded or blanched *must be cold dipped at once.*

Pack the Product Uncooked—Of course, such products as are blanched or scalded are heated a trifle; but many of the fruits are packed fresh without blanching and in every case the real cooking is done in the jar.

Close the Jar—If we are canning in glass we do not seal the jar but close it lightly. Heating the contents causes steam to form and if no outlet is provided, the pressure of the expanding steam might be sufficient to break the glass.

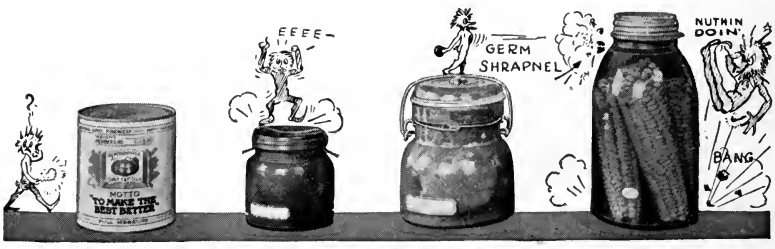
If we are canning in tin, we seal the can tight. The tin will give enough to allow for the expansion, and as the contents cool, the can will return to its original shape.

Cook It in the Closed Jar—Cooking, sterilizing, or processing as it is called in commercial use, means heating to the point necessary to keep. The time required for cooking varies with the kind of product and the kind of outfit. (See time-table, back cover.)

WHY COOK IN THE CLOSED JAR?

The Product Is Better—It is better in color, in flavor, and in texture. It is not crushed, nor cooked until it is mushy; instead of a conglomerate mass, each berry or slice is distinct.

It Sterilizes Completely—Prevents Any Bacteria Getting In—If the product is put into the jar, the jar closed, and the product cooked in the closed jar, we are certain the organisms which were present are killed; and the sealed jar prevents any bacteria which may be in the air from getting in after the product has been cooked.



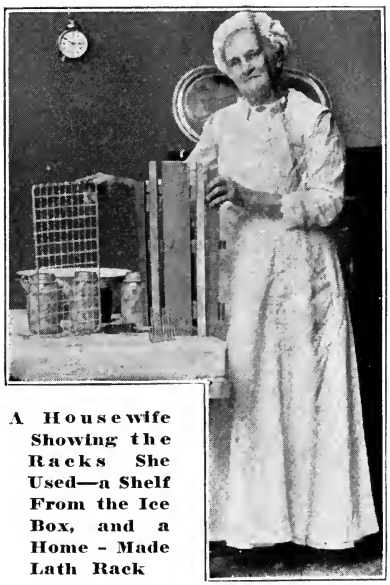
Still Doing His Best But Can't Get In

By the old open-kettle or hot-pack method, it is impossible to know that any given jar or product is perfectly sterilized. Even when the products, the jars, the rubbers, and the covers have been sterilized there is still danger of bacteria getting in *while the cooked product is being dipped from the kettle into the jar.*

It Saves Work and Time—By this method it is only a trifle more work to can a half bushel than it is to can a quart. Once the product is prepared and put into the jar, it is as easy to cook a dozen jars, if the cooker is large enough, as it is to cook one, and it requires no more time.

It eliminates entirely the hot, trying work of dipping from the kettle to the jar.

When canning with the open kettle, it is just as necessary to sterilize the jars carefully, to test rubbers, to fit tops, and to seal perfectly, at the last minute, with the very last jar, at the end of a long, hot, tiresome day when one is finishing a large lot, as it is the first hour of the morning.



A Housewife Showing the Racks She Used—a Shelf From the Ice Box, and a Home-Made Lath Rack

By the Cold Pack method, the work which needs care is all done in the beginning when the worker is fresh.

Then we do not have to watch the pack all the time it is cooking. There is no danger of "burning the kettle."

When cooking fruits or vegetables in the jar one needs only to note the time when boiling begins (or, if using a steam outfit, when the required steam pressure is reached) and the worker may then go about other work, setting an alarm clock to ring when it is time to take the product off the fire.

It Takes the Drudgery Out of Canning—We no longer dread the canning season. Canning by this method is an inter-

esting, business-like proposition; not drudgery. It is pleasanter to pack fresh vegetables in a cool room, than to pack hot vegetables in a hot room.

To sum up: By the cold pack method,

Anyone can can any food product—fruits, vegetables, meats, fruit juices, greens, soups, fish, game, or fowl.

The work is easier, pleasanter, and more interesting than by the hot pack, or the three-day, intermittent method.

The product is better, and, finally,

It Is the Only Sure Way.

CHART IV

USE WHAT YOU HAVE

Use the jars and cooker you have.

We do not need to buy any special outfit. We can do Cold Pack canning with any style of glass jar or tin can, except those which are sealed with wax. Use the size and style jar which suits you. If we have no special canning outfit, a large kettle, or can, or pail, or even the boiler, will do for a cooker.

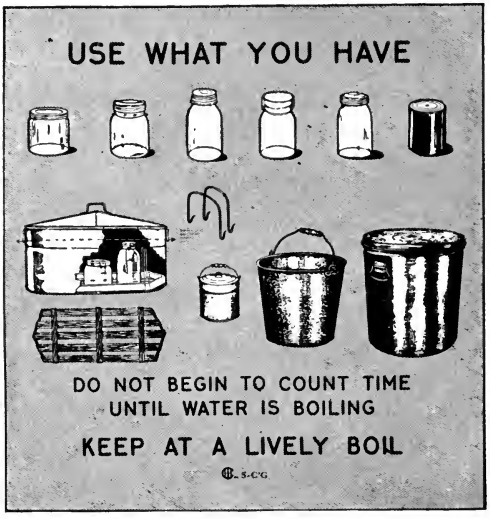


CHART IV

Glass Jars, Tops, and Rubbers — Imperfectly sealed jars are probably responsible for more spoiled canned goods than any other one cause. Before beginning to can, fit the tops to the jars, and test the rubbers. Wash the jars, tops, and rubbers in hot soap-suds and rinse in boiling water. If the tops are old boil them in water to which a little soda has been added. If they cannot be cleaned so as to be perfectly sanitary and also to look clean and neat, do not use them—get new ones.

Place the jars and tops in a kettle of warm water and allow it to come to a boil. Leave them in the boiling water until you are ready to fill them.

Rubbers should not be boiled to sterilize them but should be cleaned by washing in hot water to which a little soda has been added. Too prolonged heating injures the rubbers, and as they have to stand long boiling on the jars it is unnecessary to subject them to the extra strain.

Use new rubbers. Rubbers bought new from the store are not always new; they may have been carried over from last year's stock.

Rubbers which are extra thick and wide are not necessarily good rubbers. They may lack elasticity, they may be unnecessarily wide, or so thick they do not permit the cap of the can to screw down tight.

Testing Rubber Rings

Turn and Stretch the Rubber

Buy as good rubbers as you can get, then test for elasticity by pulling one or more times to see if they return to shape and do not break. Turn and stretch the rubber so that all parts of it are subject to the strain.

Testing Jars and Covers

Testing the Cover

Screw Top Jars—Put the top on without the rubber; screw down as tight as possible. If the thumb nail can be inserted between the cover and the jar at any point of its circumference, either the cover or jar is defective. Sometimes the edge of the cover can be bent down to make the joint tight.

The Cover Should Fit So Tight That the Rubber Cannot Slip Back

Next, place the rubber on the jar, and screw the cover down with the thumb and little finger in the same way as when preparing the jar for cooking the product. Catch hold of the rubber and pull it out, and then let it fly back. If it slips into place under the cover, the cover is not a good fit and either the cover or the jar should be discarded. Third, run the thumb around the surface on

Testing for Rough Edges

Smoothing the Edge

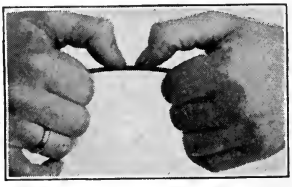
which the rubber rests. If the edge of the jar or the cover is rough it will cut the rubber. Sometimes with a file or an old knife a rough edge may be rubbed smooth, using care not to turn the edge and spoil the seal.

Jars with Composition Attached to Cover—Set the cover on the jar and tap all the way around the edge to see if the cover sits level on the jar. If it rocks at any point, this indicates a defect in either the cover or the jar.

Testing a Vacuum Seal Jar

The composition attached to covers sometimes deteriorates with age, even if the cover has not been used. In buying covers with rubber attached, be sure they have not been carried over from last season. Old covers of this type should be thrown away.

Glass Top with Spring Clamp—Put the cover in place without the rubber, set the spring, and press the clamp down. If the thumb nail can be inserted between the cover and the jar, the spring is not tight enough. To remedy, disengage the ends of the top spring from the eyelets at the side. Holding a side of the bail in each hand, press down with the thumbs on each side of the top bar. This will cause it to fit closer to the cover and increase the pressure. Return the spring to the jar and test again. Sometimes the glass covers of these jars break because the spring fits too tight.



Bending the Bail to Tighten It

Jars with Wide Mouths—Jars with wide mouths, straight sides, and lacquered or glass tops are usually preferred. They clean and pack more easily, and will take large fruits and vegetables whole.

Home-Made Cookers

Cooker—The cooker must be at least three inches deeper than the tallest jar to be used. This allows room for a rack on which to set the jars, space for the water to come "one inch above the top of the tallest jar," and an extra inch and a quarter so it will not boil over. (See drawing on Chart IV, Page 13.)

It is an advantage to have the Cooker at least thirteen or fourteen inches deep, as it makes it possible to have in it enough water so that when the jars of fruits and vegetables are set in, the water will not stop boiling.

For demonstration work at school use a **Lunch Pail.** It will hold one can at a time. The food canned may form the basis of a warm lunch next winter.

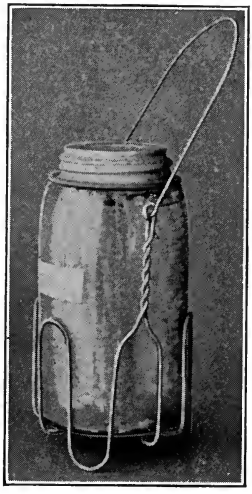
For community demonstration and for quantity canning at home, a large, **covered Galvanized Pail,** such as is sold for a garbage pail, is perhaps the best home-made outfit.

A Tin or Galvanized **Water Pail, Lard Can,** or **Coffee Can** will hold several jars at once and if covered to hold the heat, will serve very well. A **Kettle** deep enough and large enough makes a good cooker. The **Reservoir** may be used, although canning in a reservoir is apt to be wasteful of fuel.

If nothing else is available a **Clean Wash-Boiler** may be used. It is deep enough; the sides are straight; it has a close fitting cover. It requires two lids or burners of the stove, and we prefer not to give so much space to the cooker, as we need room for blanching, making syrup, and keeping the cans hot.

Jars must not sit directly on the bottom of the cooker. The contents would become too hot and exhaust under the cover and part of the product be lost; glass jars might break.

Jar Holders—If it is possible to secure individual holders for each jar such as are shown in the picture, or of a similar type, this is a good plan. If it is impossible to buy or make such holders, then we may make a false bot-



Handy Jar Holder—Observe the Projection on the Bail, Causing It to Stand Up for Easy Handling

tom or *Tray* of lath, wire, or perforated board or tin. This tray should rest on slats so it is three-fourths of an inch to an inch above the bottom of the cooker.

Five or six lath, or pieces of similar width and thickness, nailed firmly to three cross-pieces, forms a good bottom.

Shape the ends to fit the cooker and make a rim all around the edge. This prevents the cans falling off if the tray is lifted hurriedly.

Lifting a Tray of Canned Vegetables From the Cooker. Home-made Tray

Some heavy wire for handles should be fastened to the cross-pieces, *not to the rim*, of this rack. Do not fasten them to the rim of the tray or the weight of the jars may cause the bottom to fall out and we shall lose our pack.

Make two wire bails with hooks at each end, and attach these to the loops so the tray can be lifted with two hands. If desired, the ends may be bent to hook over the edge of the cooker, thus lifting the tray above the water while the cans are being removed.

Summary: We can do Cold Pack canning with any style of glass jars or tin cans which we can use for hot-pack canning (except the wax-sealed tin cans) and in any cooking outfit that is deep enough.

Here are two cautions for using hot water outfits:

First: Do not begin to count time until the water is boiling. Water is not boiling when small bubbles appear on the bottom of the kettle, nor even when they form all around the sides, and rise to the top of the water. It must bubble hard all over the top.

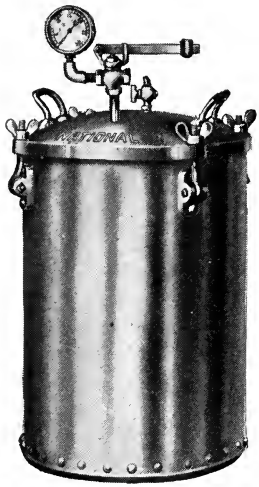
Second: Keep at a lively boil until the time is up.

FACTORY MADE OUTFITS

It is true that it is quite possible to use whatever we have, and probably many of us will wish to try out one-period, cold pack canning with a home-made outfit before we invest in a factory-made canner; but when we begin to can in quantities, we shall just as certainly wish to provide ourselves with a regular factory-made outfit, designed to give and maintain an even temperature, and to sterilize rapidly enough to handle large quantities.

There are several good types of outfits, and the profits from one season's work will more than pay for one.

Most firms which make canning outfits manufacture some styles which are self-heating; that is, for a slightly higher price, a canner with its own firebox which can be used out of doors or in a special room may be secured. These are especially desirable for community work.



A Steam Canner

In **Steam Outfits** the jars do not sit in water, but in a tray or crate above the water. A small amount of water in the cooker forms steam in which the products are sterilized.

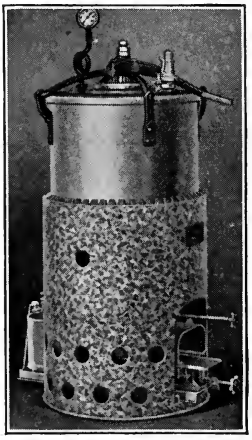
A High-Pressure, All-Aluminum Steam Cooker is especially desirable for use in high altitudes, and for products such as corn, pumpkin, etc., which require a high temperature or long cooking.

The Pressure Cooker

Products cook in such a cooker in one-third the time required with a hot water outfit; in some cases the saving of time is even greater than that mentioned. The all-aluminum boiler can be subjected to intense heat and pressure. This one will carry 30 lbs. pressure and for canning is used at 10 to 15 lbs.

With even a small size outfit of this type, it is possible to can as rapidly as with a large outfit which cooks more slowly.

A Pressure Cooker is much used west of the Rockies for preparing meals and is rapidly coming into favor in the east because of the short time required to cook foods in it.



The Sprague Safety Cooker

Steam Canners are of aluminum, steel, iron, or boiler plate. The latter does not admit quite so high a temperature as the pressure cooker.

Safety Steam Cooker—The Special feature of this Cooker is that the top cannot be unclamped or opened in any way while any pressure remains in the kettle. This prevents the operator from being burnt or scalded by escaping steam, as he must first open the blow-off valve at the top of the kettle and allow the steam to escape in that way. A simple and ingenious device controlled by the pressure inside the kettle keeps the cover locked on until the steam has escaped.

This safety provision is an especial advantage with young people or those not accustomed to working with steam pressure outfits.

The Cover, Kettle, Jacket, Heater, and Wire Crate of the Safety Cooker

Water-Seal Steam Canners give a temperature slightly above boiling point. These are of galvanized iron.

The cylindrical cover sets into a double jacket, and the extra air-space helps maintain a temperature of 2° above the boiling point. (In the altitude of Chicago, about 600 ft., water boils between 210° and 211°.)

A Rapid-heating Firebox is a feature of the outfit shown on Page 23, which illustrates this type.

Hot Water Bath Outfits may be of tin, copper, iron, or galvanized iron. In the hot water bath outfit, enough water is put in the cooker to extend one inch above the tops of the jars, and the goods are cooked at the boiling point.

The home-made outfit is a hot water bath outfit. The commercial hot water bath outfits are similar to a large kettle except that they are manufactured for use in canning and so are suited in size to hold jars economically.

Time-table—The time-table for hot water bath outfits is based on quart jars, cooked at 212°. In high altitudes water boils at a lower temperature and so it is necessary to cook products longer. See notes under "Time-table," page 52.

The time-table for steam outfits does not vary, but is the same for all altitudes.

A Water-Seal Steam Outfit with a Rapid Heating Firebox

Courtesy Home Canner Co., Hickory, N. C.

A Group of Girls Using an Out-Door Commercial Hot Water Bath Outfit

Other Things Needed

In addition to a canning outfit and cans, we need sundry other articles.

Tables—If several are to help in canning, be sure to have plenty of table space—one long table or several smaller ones set end to end.

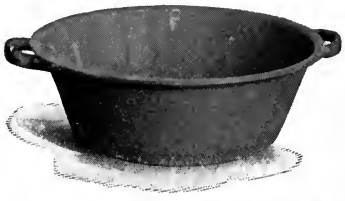
Chairs—Plenty of them, so the workers will not tire at their work.

Pail for Blanching—It saves time to have a separate pail, pan, or kettle for blanching. In this way products for the second pack can be blanched while the first are cooking. Add a cover to hold heat and a wire basket for blanching in steam.

We shall also need a piece of common cheesecloth, a towel, or a wire basket, in which to put the vegetables for lowering them into the hot water.

A Covered Steamer Set in a Pail Makes a Good Outfit for Blanching in Steam

Lifters—made of heavy wire, bent as shown in the picture, to form a hook at one end and a handle at the other, are a convenience if the large tray is used.



The Dish Pan May Be Used for the Cold Dip

The Wire Jar Holder (See cut Page 16), **a Duplex Fork, or a Wire Potato Masher** of the type shown on Page —, may be used for lifting single jars above the water so they can be lifted out with the towel.

Pails, Pans, Basins, Sharp Knives, Spoons, a Measuring Cup, Can Filler, Colander, etc., for use in preparing the product; a **Clock** to time the processing, **Towels, Labels, Paste,** and **Brush** for labeling cans; if we are canning to sell, **Scales** to weigh the filled cans and see that each is standard weight; in brief, such utensils and supplies as are necessary to quick, accurate work, should be provided.

Keep a Note Book of Information about the variety and state of the product, time blanched, grade of syrup used, time cooked, and any special features — facts which might affect quality or keeping.

If tomatoes canned after such and such a date, or blanched or cooked too long, or too short, a time, are not as high grade as those canned under other circumstances, that is a good thing to know so our next year's pack may be improved.

Date All Goods—It helps locate them and is an index as to when to dispose of such goods as are best within a limited period after canning.

CHART V

STEPS IN COLD PACK CANNING

No Preservative Needed—It is quite unnecessary to use any canning compound or other preservative. Cooking the product in a closed jar according to the instructions given, will sterilize any food so that it will keep without a preservative.

In canning, it is well to begin with one product only, and with only a small quantity. Then we are not hampered by too many things to do all at once and can familiarize ourselves absolutely with every step. When we feel at home in the work, then we can undertake larger quantities and new varieties.

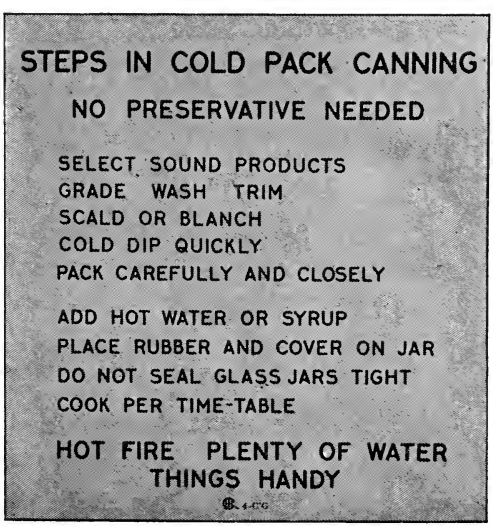


CHART V

Tomatoes are common, are easily canned and are usually undertaken first in Boys' and Girls' Club Work. We shall take tomatoes for an example and follow through the various steps.

Canning Tomatoes

Select Sound Products—Select fresh, ripe, firm tomatoes.

Grade, Wash, Trim—Grade for ripeness, size, and quality; this is to insure a high-grade product. We could, of course, can different sizes and shades together, but uniform products are more pleasing to the eye and will sterilize more evenly. If the products are of the same ripeness and quality, the entire pack will receive the proper degree of cooking.

Of course, we wash the products clean, and where necessary trim them—pare apples, string beans, silk corn, hull berries —in short, prepare them as may be necessary. (In the case of tomatoes we peel and remove the stem end, or core, *after* scalding, so we will pass on to the next step.)

Scald or Blanch—Scald means to immerse in boiling water. Blanching is a longer process. Both loosen the skin. Blanching may also reduce bulk, and drive out objectionable acids, making it unnecessary to exhaust.

Tomatoes need to be scalded only enough to loosen the skin.

Have ready a kettle of boiling water. Put the tomatoes in a wire basket, or, lay them on a piece of cheese-cloth, or a towel, twist the ends together to form a sack, and let this down into the kettle. It is a good plan to slip a rubber band around the neck of this sack to hold the ends in place. The ends should be long enough to stand up out of the water and so avoid danger of burning the fingers when removing the product.

Have the water boiling hard and leave it over the fire so they will scald quickly. If the water is not boiling it is difficult to loosen the skins without leaving the tomatoes in so long that the pulp becomes soft.

If the tomatoes are ripe and the water is boiling, one-half minute to one minute will be sufficient; unripe tomatoes may require longer. A little experience will enable us to tell just when they are scalded enough.

Do not leave the tomatoes in the hot water until the skins break, as this gives them a fuzzy appearance.

Cold Dip Quickly— Lift the tomatoes out of the hot water and plunge them immediately into cold water, or, hold them under the cold water faucet.

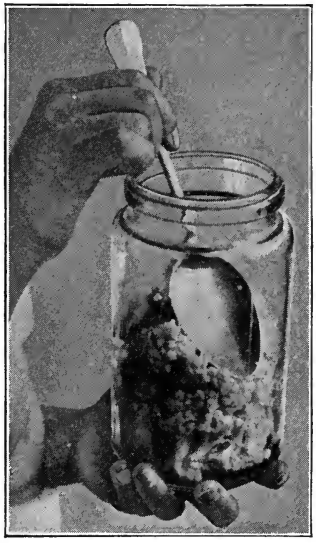
The cold dip makes them easier to handle, separates the skin from the pulp, firms the texture, and coagulates the coloring matter so it stays near the surface, giving them a rich, red color.

Then the shock due to the sudden change from hot to cold and back to hot again seems to help kill the spores.

Do not let the product stand in the cold dip. The water becomes lukewarm, softens the product and allows bacteria to develop.

Core and Peel Tomatoes—Take the tomato in the left hand and with a sharp knife cut out the core. Be careful not to cut into the fleshy portion or seed cells, or the seeds and pulp will be scattered through the liquid, injuring the appearance of the product. Cut out the core before removing the skin, as the skin will protect the pulp and there is less danger of breaking the tomato.

Pack Carefully and Close—The jars, rubbers, and tops, should be ready. Glass jars should be hot, so there will be no danger of breakage in setting them into the hot water, and so they will not cool the water in the cooker below the boiling point.



Pack the Product Close

Pack the tomatoes whole, pressing and shaking them well down together, but not using force enough to crush them.

Add Hot Water or Syrup—The instructions on the chart are general—hot water for vegetables, hot water or syrup for fruits. *Tomatoes are an exception; as a large part of the tomato is water, no liquid is needed.*

Under the Pure Food law canned tomatoes to which water or extra juice has been added are considered adulterated. This is intended to protect the public against unscrupulous canners who might slack fill the can with tomatoes and add surplus water or juice. If the tomatoes are to be sold, therefore, nothing should be added except one teaspoon of salt, or, salt and a half spoon of sugar per quart, for seasoning.

If the tomatoes are to be used at home they may simply be packed close together, or, those which break in handling may be crushed and poured over the whole tomatoes to fill the spaces. Where tomatoes are to be used as stewed tomatoes, or for soups, they may be cut in pieces, as more can be packed in the same space than if packed whole, but do not fail to can some whole for salads and exhibits.

Jars Do Not Need to Be Full in Order to Keep. By the hot pack method the air in a jar which is only part full has not been sterilized, and may contain bacteria which cause the product to ferment or mold. But by the Cold Pack, the air in the jar is sterilized while the product is being sterilized, and if the jar is closed before cooking, a single spoonful may be canned in a two-quart jar and the product will keep as well as though the jar was full.

Using Thumb and Little Finger to Screw Down the Cover

Place Rubber and Cover on Jar—Fit the rubber. Use good rubbers and see that they lie flat and fit close up to the jar. Put the covers in place.

Do Not Seal Glass Jars Tight—If using screw top jars, screw the cover down until it catches, then turn a quarter of an inch back; or screw down with the thumb and little finger, not using force, but stopping when the cover catches.

If using vacuum seal jars, put the cover on and the spring in place. The spring will give enough to allow the steam to escape.

In using glass top jars with the patent wire snap, put the cover in place, the wire over the top, and *leave the clamp up.*

The cover on a glass jar must not be tight while the product is cooking, because the air will expand when heated, and if the cover is not loose enough to allow the steam to escape, the pressure may blow the rubber out, or break the jar.

Set in Cooker—After the products are packed, it is an ad-

Leave the Clamp Up

vantage to cook as quickly as possible. Time lost in bringing the contents to the point of sterilization softens the product and results in inferior goods.

For most products, we pack in hot jars, fill with hot water or syrup, have the water in the cooker boiling, and have enough water so it will not stop boiling when the jars are set in. If we use ordinary good sense in handling the jars, we will have no breakage. But tomatoes are only slightly warmed in blanching, and as we add no hot water, the jar is not hot enough to make it safe to set it directly into boiling water. *Jars of tomatoes should be set in warm water until ready to place in the canner.*

Cook Per Time-Table—If products are undercooked they will not keep; if they are overcooked they lose flavor and texture.

Tomatoes sterilized under boiling water require twenty-two minutes. Berries, apples, and small fruits, will process in five to twenty minutes; greens require twenty-five minutes to two hours; and sweet corn, forty-five minutes to three hours, according to the outfit. (See time-table on back cover.)

Do not begin to count time until the water is boiling.

Using a Wire Potato Masher to Lift Can From the Cooker

Hot Fire, Plenty of Water, Things Handy — We must be able to secure a hot fire quickly, and should keep a fairly even heat. Do not try to economize on water. We must have plenty of clean water to wash jars and products, to make syrups and brines, for use in blanching, and, if we are using a hot-water outfit, for use in processing.

CHART VI

FINISHING THE WORK

Remove Jars From the Cooker—Do Not Expose to Cold Drafts—In taking canned goods from boiling hot water, care is needed to see that they are protected from drafts. If necessary close the windows and doors while lifting the jars out, as a sudden draft might break them.

FINISHING THE WORK
REMOVE JARS FROM COOKER
DO NOT EXPOSE TO COLD DRAFTS
EXAMINE RUBBERS TIGHTEN COVERS
INVERT TO TEST THE JOINT AND COOL
WRAP TO KEEP OUT LIGHT
STORE IN COOL DRY PLACE
STICK TO ONE SET OF INSTRUCTIONS
WORK QUICKLY
HAVE EVERYTHING CLEAN AND SANITARY
ATTENTION TO LITTLE THINGS
PRODUCES HIGH GRADE GOODS

CHART VI

Examine Rubbers. Tighten Covers—Examine rubbers to see that they are in place.

Sometimes if the covers are screwed down too tight, the pressure of the steam from the inside causes the rubber to bulge out. Simply loosen the cover a thread or two and push the rubber back into place and then tighten. In case the rubber does not seem to fit well, or seems to be a poor rubber, it should be replaced by a new one and the jar returned to the cooker for five minutes.

The jars should be sealed tight—covers screwed down, clamps put in place—immediately after they are removed from the cooker.

Invert to Test the Joint and Cool—If the seal is not perfect, correct the fault, and return the jar to the cooker for five minutes if hot, ten minutes if jar is cold.

Do Not Invert Vacuum Seal Jars. These should be allowed to cool and then be tested by removing the spring or clamp, and lifting the jars by the cover only. Lift the jar only a half inch, holding it over the table so that in case the lid does not hold, the jar and contents will not be damaged. Or, better still,

tap around the edge of the cover with a rule. An imperfect seal will cause a hollow sound.

Wrap to Keep Out Light. Store in a Cool, Dry Place— Light injures some canned goods; bacteria breed in heat; dampness favors mould and may cause rust. Canned goods are best kept at a temperature below 70° F.

Canned goods exposed to very unfavorable conditions may lose the delicate flavor and color, and in some cases may even spoil.

Do not spend your time canning fruits or vegetables and then allow them to spoil because of improper handling afterward. Do not condemn factory canned goods which have been stored in a hot room.

Stick to One Set of Instructions— If you have several different sets of instructions you may be interested to try out each of them and see which is the most efficient, the least labor, and produces the most satisfactory results, but *do not combine* two sets of instructions—you will be certain to get into difficulty.

Work Quickly— Take the steps in rapid succession: The cold dip should follow the blanch immediately—the product should be packed and hot water or syrup added at once—it should be processed as soon as possible after packing; else the beneficial effects of shock on the bacteria will be neutralized. All along the line, quick work is an advantage, is safer, and produces better results. If we are to can in quantities we must work quickly and surely, else our profits will vanish.

O. H. Benson and Geo. E. Farrell of the Office of Extension Work, North and West, Washington, D. C., Training Teachers in the Canning Work at the Office of Co. Supt. E. J. Tobin, Chicago

Have Everything Clean and Sanitary—Absolute cleanliness is necessary. Dress, Hands, Jars, Tables, Utensils, everything used about the work, should be absolutely sanitary—sterilized where necessary and scoured clean always.

Use hot soapsuds freely for cleansing utensils. Especially do not use jars or covers which cannot be cleaned perfectly.

Wash the products in pure water. Impure water is offensive and may spread disease. Scrub the products with a brush if necessary, and rinse thoroughly through several waters.

If any product cannot be made perfectly clean, do not use it.

We are preparing food to be eaten and must comply strictly with all sanitary requirements. To take chances is to endanger the health of the consumer. The room must be screened, the hair may be protected by a cap, and the dress by a clean apron. Be sure the hands are clean.

In high grade commercial canning factories much attention is given to screening, light, ventilation, drainage, paint, and whitewash. Personal cleanliness is enforced.

Attention to Little Things Produces High-Grade Goods—Perfection of detail makes the difference between fair and excellent.

If we have no other reason for canning, let us can and sell and with the money buy modern conveniences for the home. Any home can have a better water supply, better lights, labor-saving machines, such as a vacuum cleaner and a canning outfit; we can can and earn the necessary amount which we would not otherwise have had.

It is not always having so much to do which makes women's work hard; it is more often having to do something and having neither the supplies nor the utensils to work with.

Courtesy of Co. Supt. E. J. Tobin

A National Leader, a State Leader, a School Teacher, and a Rural Canning Club at Work

CHART VII

IT'S GOOD BUSINESS

An Average Profit, 1/10 Acre Tomatoes

This account is an average made up from the records of Tomato Club girls. The rent is figured at $1 per tenth acre, and the labor (Club girls') at 10c per hour. (Read chart.)

The average profit reported by Canning club girls in 1916, from a tenth of an acre was $24, or at the rate of $240 per acre. Some of the club girls have made more than $100 from their tenth acre.

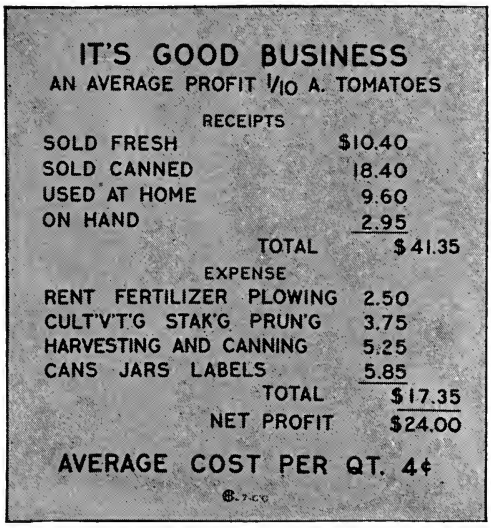


CHART VII

(The lecturer may give the year's best record among Canning club girls, the record for the county, the home state, etc., if the figures are available.) The average cost per quart of home-canned tomatoes is 4c.

Marketing Canned Foods

In most cases, if our goods are of standard quality and pack, and we can guarantee a definite number of cans, the home grocer will buy them as readily as he will jobber's goods. He must be able to depend on us, and we must make arrangements some time in advance, as grocers usually place their orders early in the year.

Sometimes we can't sell garden produce fresh, because when we have tomatoes or beans, everyone else has all he can use. But if we can them and put them on the shelf until the fresh vegetables and fruits are gone, then people will be glad to pay a good price for our canned foods.

With a few exceptions, such as apples and blackberries, canned goods do not deteriorate but will keep indefinitely, and so may be held until the market is favorable.

CHART VIII

WE GROW IT, WHY NOT CAN IT?

Red Tomato on his way from the garden to the winter dinner table. The grower may sell him to the commercial canner (at $8 to $10 per ton), from the cannery the canned goods may pass to the wholesaler, who sells them to the retailer. The housewife may buy them at the country store at 15c per can or at a price of $120 per ton.

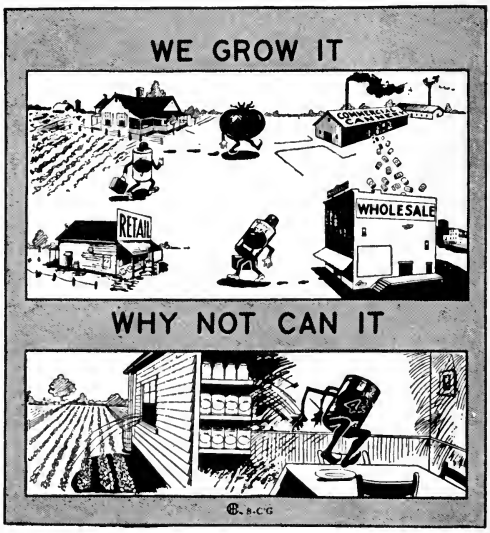
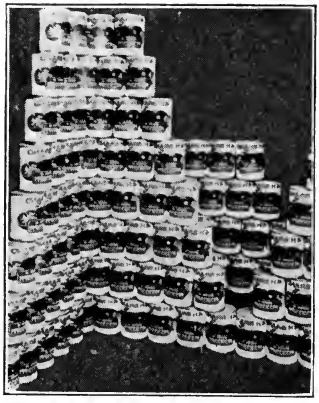


CHART VIII

There is room for the commercial cannery just as there is room for the commercial bakery, or laundry, or tailor shop, but let us not be dependent on the commercial canner. A can of corn may be *Grown* in the middle West, *Canned* at a commercial cannery, *Shipped* from there to a Baltimore jobber, *Sold* to an Eastern wholesaler, *Then* to a Chicago commission house, *Next* to a middle West retailer, adding *Profit* and *Transportation* charges all along the way, to be *Bought* by folks who fed bushels of sweet corn to the hogs, because it reached the eating stage faster than they could consume it.



Home Grown, Home Canned

How much better it would be to can that corn fresh from the home field and store it on the shelf for winter use. *Grown at Home, Canned at Home, Used at Home.*

CHART IX

CLUB WORK GIVES 4-H TRAINING

O. H. Benson says that Club work is "the right hand of fellowship from the Home to the School and from the School to the home."

Modern understanding of education is that it is a training for citizenship, and that such training should not be one-sided, but should train:

The **Head** — To Think, to Plan, to Reason.

The **Heart**—To be Kind, True, and Sympathetic.

The **Hands** — To be Useful, Helpful, Skillful.

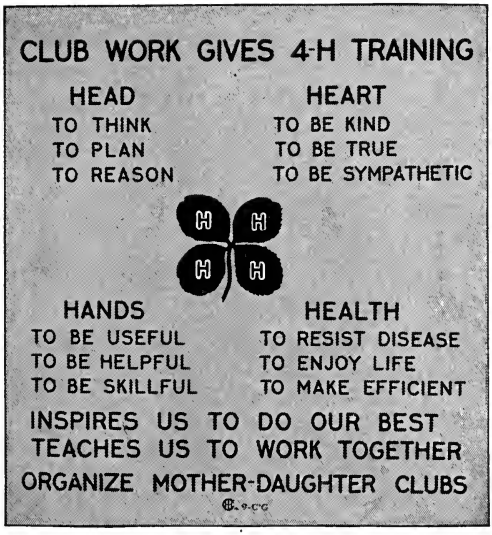


CHART IX

The **Health**—To Resist Disease, Enjoy Life, Make Efficient.

The four-leaved clover, a leaf for each H, is the emblem of the Boys' and Girls' Clubs. The Canning Club motto is:

"Make the Best Better."

Inspires Us to Do Our Best—We do more work and better work when we work together. We each want to do as well as our neighbor, and we put into our work the best we have. Then we exchange ideas and help one another. It is no longer "I" or "you," nor even "us;" it is "our neighborhood"—and we all put forth our best effort, and all pull together for the honor and development of the community.

Teaches Us to Work Together—Canning in clubs makes for neighborliness. We forget petty jealousies. We come to understand the neighbor we did not like and decide that she isn't such a bad sort after all. We do better work. Ten girls

working together will do more canning and better canning than ten girls working separately. We exchange suggestions and experiences and all profit by the increased knowledge.

O. H. Benson

Working with others broadens ideas and ideals. Canning in clubs is certain to lead toward a general interest, both in canning and in community needs and possibilities. It establishes connection with the outside world in at least three directions: with the state schools through the State Canning Club Leader, who is associated with the university or agricultural college; with the U. S. Department of Agriculture, which supervises the club work; and with the business world, such as local grocers, commission merchants in large cities, hotels, restaurants, hospitals, railroad dining car service, and other possible markets. The boys and girls learn to think in terms of these larger units and to plan their work to meet the new conditions.

The Home canning club meets with the canning club from some other neighborhood and all of them keep in touch with Canning Clubs in other counties and so in touch with the world. All may come together at the State Fair and all consult with the State Leader of Boys' and Girls' Clubs and with the Specialist in Charge of Club Work at Washington. All in all, it is a great social influence.

We not only work to better advantage when working together, but the association is an inspiration. Most communities have

Courtesy of Home Canner Co.

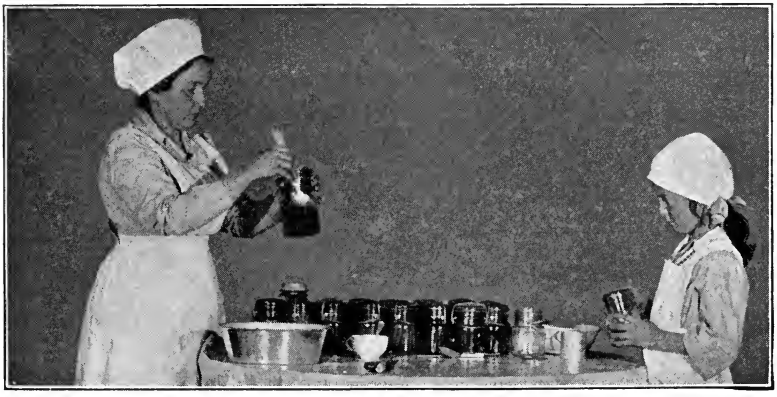
A Group of Southern State Leaders

possibilities. They could do more if only there were "someone to go ahead." Club work, community work, a common interest, develops leaders—and when I say "leaders" I do not mean those who *stand* and *say, "Go";* but those who *go* and *do,* and *say, "Come."* We need more leaders who lead by serving.

Organize Mother-Daughter Home Canning Clubs—Boys' Clubs are good, Girls' Clubs are good, Men's organizations, Women's organizations—there is a place for each of them, but there is a new club, the Mother-Daughter Club.

It has the usual club possibilities for good times, it spreads useful knowledge, and it gives Mother and Daughter a common work and pleasure. Then when Mother and Sister work together, Brother is anxious to help pick and peel and solder and keep the fire going; Father likes the business-like air there is to the new way, and after he makes a few calculations he realizes that, whether you figure it by the day or by the acre, the "women folks" are making about as good money as there is in corn or cotton, and Father becomes interested and helps can and tip and lift and carry.

No, we don't want to add to women's work; we want to lighten it. It is very much easier to get a meal when we have canned in a business way and in sufficient quantity. Then we have on hand a variety of good healthful foods and we do not have to wonder what to cook. It is very much easier to cook twenty-five cans of tomatoes at one process than it is to cook twenty-five individual lots.



A Glenwood, Neb., Mother-Daughter Team Canning at Home

CHART X

WHY HAVE I BEEN TALKING TO YOU ABOUT HOME CANNING?

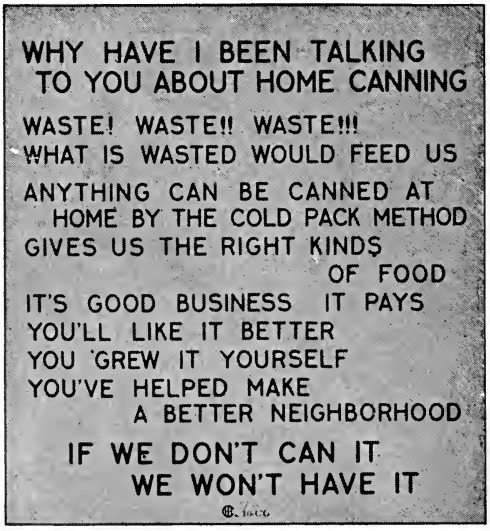

WHY HAVE I BEEN TALKING
TO YOU ABOUT HOME CANNING
WASTE! WASTE!! WASTE!!!
WHAT IS WASTED WOULD FEED US
ANYTHING CAN BE CANNED AT
HOME BY THE COLD PACK METHOD
GIVES US THE RIGHT KINDS
OF FOOD
IT'S GOOD BUSINESS IT PAYS
YOU'LL LIKE IT BETTER
YOU GREW IT YOURSELF
YOU'VE HELPED MAKE
A BETTER NEIGHBORHOOD
IF WE DON'T CAN IT
WE WON'T HAVE IT

CHART X

Because of **Waste! Waste!! Waste!!!**

What Is Wasted Would Feed Us—When there is so much want all about us, it is shiftless and wicked to let any good food go to waste.

Anything Can Be Canned at Home by the Cold Pack Method—Save the waste and feed the hungry.

Gives Us the Right Kinds of Food—Juicy, nutritious, palatable vegetables and fruits which we need to keep us healthy and help us grow strong. And besides,

It's Good Business. It Pays—It reduces the cost of living and it may be made a source of income.

You'll Like It Better. You Grew It Yourself—There may be a difference of opinion as to whether home-canned or commercial-canned tomatoes are best. There is no question which we like the best. Our own has an extra flavor—the pride which comes with owning something—from doing work ourselves. There is no bigger moment in life than when we proffer another the first fruits of our own labor.

"We grew these strawberries, Mrs. Brown. Yes, right in our own garden. Johnny weeded, and bedded, and reset, and he's proud as a hen with one chicken. Has all the boys in the neighborhood in to admire 'em an' begs me to make shortcakes for 'em. Yes, it's some work, but I'd rather have 'em here than off by themselves learning bad habits. He's got so he takes an interest."

Or, we pass the preserves with an extra pride. "Mary made them. Did it in Club. They're quite the finest we ever tasted. Yes, that new teacher does contrive to keep the scholars interested. Always got something new. Get their lessons, too. Don't seem to interfere with their school work."

You've Made a Better Neighborhood— The Canning Club should not be a temporary organization for the sake of "doing something new." It should aim at permanent results in canning; improved methods, and a more general canning of vegetables, fruits, fruit juices, soups, and meat. The study of Home Economics should develop higher standards of sanitation and of general living conditions. Good taste in dress, furniture, landscape gardening, and in standards of conduct will all grow out of a properly conducted club under a competent, devoted leader. Club canning makes for neighborliness. Everybody helps everybody else. We study and plan together for a better community. In the end it is citizens and home makers we are making, not simply canners.

If We Don't Can It We Won't Have It—Some people may say that they would rather grow corn or cotton and buy their canned goods. The answer to this is that they do not buy enough. The final argument for most of us is: "If we don't can it, we go without."

Organize—Shall we consider the appointment of a committee to arrange date and place of meeting to organize a Home Canning Club? Or, shall we organize now?

A Well Put Up Exhibit of Home-Canned Foods Packed by Four Sixteen-Year-Old Girls, F. L. Audrian, Supt. City Schools, Kiona, Wash., Club Leader

Canning In Tin

People who can in large amounts usually can in tin for the following reasons:

Shipment Is Easier—People who can in quantities can to sell, and shipping goods canned in glass is somewhat awkward. Tin cans are lighter weight; they require less space; it is not necessary to handle them so carefully; the cans need not be returned.

Tin Cans Are Less Expensive—If we are going to market our canned goods, tin cans are less expensive. For home canning, glass jars are probably cheaper, as they can be used several years in succession, while tin ones must be replaced each year; but if we are canning to sell, it would be necessary to add the cost of the jar to the cost of the product, or, to require the glass jars returned to us for use the next year.

There Is No Danger of Breakage; Less Storage Space Is Required—The tin cans can be handled more readily—they may be set under the faucet or in a vat for rapid cooling, and they may be stacked one on top of another. This last makes it possible to store them in much less space than is required for glass jars.

Caution—In handling the "sanitary" can before packing, care must be taken to see that the flange at the top is not broken or cracked, or it will be impossible to make a perfect seal.

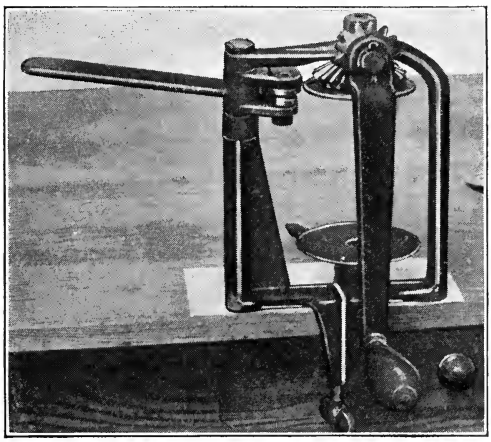
The Product Sells More Readily—Except for fancy trade, few commercial goods are canned in glass. In addition to tin canned goods being cheaper (we have to charge a higher price to cover the cost of glass cans), there is the fact that the general public may can at home in glass, but it is accustomed to buying its canned foods in tin, and custom is a big factor in business.

Lacquered Cans Should Be Used for Very Acid Products—Do not can the more acid products or red fruits—pumpkin, squash, sweet potatoes, red beets, sour cherries, gooseberries, blackberries—in plain tin; the cans should be lacquered, vulcanized, or enamel-lined.

SEALING TIN CANS

The Hand Sealer

Simple, inexpensive, hand-sealing devices for sealing the "sanitary" can by the "double seaming" process without the use of solder, acid, or heat are now on the market.



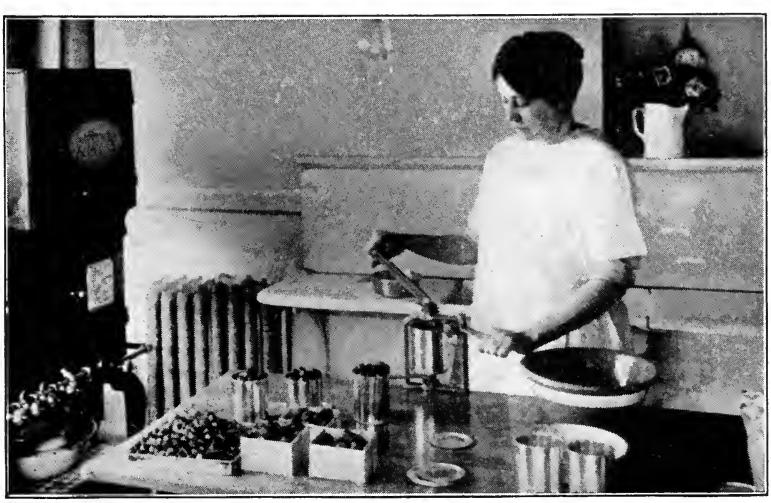
A Simple Hand Sealer

The top or cover is double seamed. The work of sealing is simple. No acid is used, and there is no solder on the inside of the can.

The entire top is open, which makes the can easier to clean inside, and also makes it possible to pack large tomatoes, peaches, etc., whole.

To insure a perfect seal, the flange of the can must not be broken or cracked.

The seam sealer does not need heating and of course it is simpler to turn a crank, and seal by the double seam process, than it is to use a capper and tipper and solder.



Using the Hand Sealer — Notice the Open-Top Cans

Sterilizing Products in Tin Cans

It Is Not Necessary to Exhaust—Some canners cap the cans and then exhaust before tipping. This method requires an extra handling of the cans, and is not necessary where the product is *blanched* and *cold-dipped* before packing, and *hot* water or syrup used to fill the can.

Intermittent processing requires so much extra time and so much unnecessary lifting that it kills enthusiasm. Where time, labor, and fuel are valued, it is quite as cheap to buy vegetables ready canned, as it is to can by the intermittent process, and most people will prefer to do so.

Probably it is wise to follow the instructions sent with our canning outfit, or given us by our state club leader, until we are sure of our method; then, if we wish we may try out other methods and choose the one we like best.

There is no danger of breaking tin cans but there is danger of over-heating the product in the bottom of the can, so we need a tray, or the wire basket, the same as for glass jars.

Leaks—If a can leaks, a series of air bubbles will rise from it when it is set into hot water. Should a leak escape notice until after cooking, it can be discovered by turning the cans cap-side down as they are removed from the cooker.

Cool Quickly—Tin holds heat longer than glass and if tin cans are packed close together when they are taken from the cooker, and allowed to stand, there is danger that they will continue to cook and the flavor and color be injured. They should be placed immediately in a bath of cold water or under the cold water faucet.

Mark the Cans So You Can Distinguish Them—With a pencil or rubber stamp mark the cans before putting them in the cooker. This is the only safe, sure way to keep from getting the different products mixed.

Do not scratch the cans as this may cause them to rust.

When the cans are perfectly cool we can set products of a kind in one place, those of another kind in another place, and so distinguish them until they are labeled, but while we are handling them, care is necessary to keep from getting them mixed.

Labels

It is probably best not to label cans we are going to sell, until we are ready to sell them; then the labels will be clean and attractive for the customer.

Small labels such as we use on glass jars are not advisable for tin. With these it is necessary to roughen the tin with the acid at the point where the paste is to be applied. Even then if the can is set in a very dry, warm place the label may drop off. If set in a damp place, the can is apt to rust where the paste was applied.

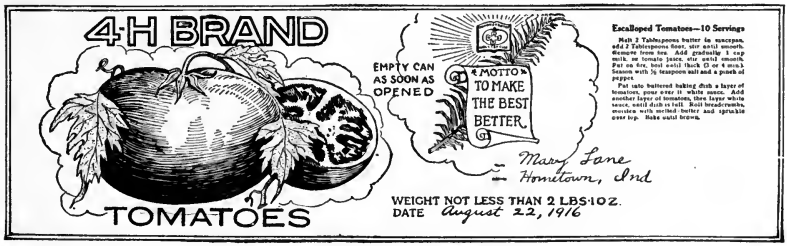
The type of label used by commercial canners which is placed around the entire can and is fastened with paste applied at the ends only, is the best style.

The regular club label which carries the 4-H brand, the club motto, and blanks for weight of contents (without juice), date canned, and name and address of canner, is neater and more suitable than pictures of inappropriate flowers or pretty girls. Print at least one recipe on each label.

Buying Food to Can

One big important feature of Home Canning is the saving of garden and orchard produce which is now allowed to go to waste; but canning will also reduce expenses even when the food to can must be bought on the market.

In 1916, the Uncle Sam, Preparedness, Ever Ready, B. and G., Happy Helpers, and Economy Canning Clubs of the public schools of Pawtucket, R. I., working under the direction of Miss Alice L. Currier, Supervisor, bought fruits and vegetables on the market and canned the following: 7½ qts. apples, 23½ qts. blackberries, 41 qts. blueberries, 16½ qts. currants, 6 qts. gooseberries, 71½ qts. peaches, 20 qts. pears, 13½ qts. pineapple, 93 qts. raspberries, 1½ pts. rhubarb, 6½ qts. strawberries, 3½ qts. asparagus, 51 qts. snap beans, 49½ qts. shell beans, 45 qts. beets, 13 qts. beet greens, 30 qts. peas, 68 pts. peppers, 25¼ qts. summer squash, 5 qts. sweet potatoes, 4½ qts. spinach, and 17 qts. tomatoes, a total of 577 qts. **Investment, $137; net profit, $249.**



A Good Type of Label

Opportunity For Boys and Girls

Although jobbers buy commercial canned tomatoes at 75 cents a dozen, the average retail price is 15 cents per quart, and the average cost of canning tomatoes at home or in club is 4 cents per can. What is the average price of tomatoes at your grocery store? What is the saving per can?

Suppose a girl cans 100 quarts per day—what kind of wages can she make?

Suppose we figure on the club slogan "a can of fruit, a can of greens, and a can of vegetables for every day in the year" —approximately 1,100 cans at an average saving of 10 cents a can, $110; isn't this worth saving?

And at that we have left out the soups and fruit juices, both of which are easy to can and desirable to have.

It is not necessary for girls to go away from home in order to earn money. Until recently the only avenues open to girls who wished to earn money were teaching, stenography, sewing, clerking, and housework, and there was a feeling that the last named occupation was not quite genteel. If canning helps to advance the understanding that any helpful or necessary work well done is dignified and honorable, it will help some.

Besides buying her own clothes, helping out the family, and gratifying some special wants, a canning club girl can start a bank account and save enough money to go away to school.

Courtesy Home Canner Co.

A Capped and Aproned Club at Work

Besides that, she has a profitable business all her own. She can earn much more than by clerking in a store, or working for $8 to $12 a week as a stenographer. If she is enterprising and a good business woman she may make more than by teaching school.

Cold pack canning produces a commercial product worth good money. If all people in the community who have canned goods for sale club together and work together it is easier to secure a market.

The House Mothers' Responsibility

Then, too, the girl who cans is learning how to do the work which is distinctly her work. Generally speaking, the feeding of people is the woman's business.

"Every morning the world wakes up hungry," and every day the women of the country busy themselves to relieve that hunger. Some of them do it haphazard, just any way and anything; some of them study Foods, and Health, and Hygiene, and plan their menus; some of them realize that not only the health of the world but the business of the world, is dependent on the breakfasts and dinners and suppers that the world eats.

The *Health* of the human race is in the hands of the women of the world.

No child who is not fed the foods which make bone and muscle and vitality can grow bones and muscles and good red blood. Stunted, pale, sickly, weak children often indicate children not properly fed.

Boys and girls who get plenty of fresh air and exercise and who eat properly will outgrow many hereditary weaknesses. Air and exercise are the property of him who will take them, but we must eat what is set before us.

We Balance Rations for the Stock, Why Not for the Home Folks? We are so intent on the moral and mental welfare of mankind, that often the physical is neglected. We know that animals must have a balanced ration, and we send our sons to agricultural colleges to learn about suitable feeds for stock; we must also insist that not only colleges and high schools, but every one-room school as well, teach both girls and boys to regulate their eating with an eye to: **1.** Repairing waste, 2. Maintaining health, and **3. Furnishing energy.**

Planning and constructing a healthful, satisfying, tasty dinner and setting it before the family in a dainty, artistic way is as fascinating and quite as useful as designing and making a hat, or painting china. And—don't forget this—if we make it so by painstaking, competent service, quite as dignified and honorable.

The *Business* of the world is in the hands of the women of the world.

People cannot be alert, clear-thinking, clean-acting, and efficient unless they are fed properly.

The *Happiness* of the world is in the hands of the women of the world, because it is the poorly fed person who

Becomes ill-tempered—and quarrels;

Becomes dissatisfied—and indulges in drink, questionable amusements, and bad company;

Becomes sick—and perhaps loses health permanently;

Becomes discouraged—and quits.

Quits work, quits home, quits morality and manhood and character, quits trying,—just quits. And when a man, or woman, quits, unless we can get him back mighty quick, the game is ended. There is nothing more to be said or done.

Community Life, Health, Business Efficiency, Happiness—it is a large order, but it hinges absolutely and undeniably on the diet; and in the country, at least, the diet hinges partly on Home Canning in club work.

Courtesy of U. S. Dept. of Agriculture

Laying the Foundation of Community Life, Health, Business Efficiency, and Happiness, Etc.

SOLDER-SEALED TIN CANS

The hand-sealer is so simple and the open-top can so satisfactory that we prefer to use this method when possible.

But no one need hesitate to undertake canning in tin because soldering seems a complicated process. Soldering is simple and easy and instructs in a needed art. It is a distinct achievement for any boy or girl to be able to solder not only tin cans used in canning, but the leak in the water pail, the boiler, the dishpan, the basin, or other utensils used about the home. Soldering should be taught for its many other uses even if we are not using the solder-sealed can.

For solder-sealed cans, we shall need several things which we do not use when canning in glass, or with seam-sealed cans. In order to be sure that we overlook nothing here is a list which we can check off as we provide the material:

Tin Cans and Solder-Hemmed Caps—Solder-hemmed caps are not included with the cans but should be ordered extra. There is a binding of solder around the cap rim. The hot iron melts this and forms the seal.

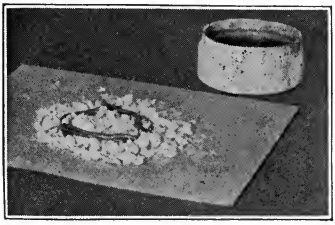
Wire Solder—Our can caps are solder-hemmed but we need a small amount of wire solder to tip the vent. **A Capping Steel** to seal the cap. **A Tipping Copper** to melt the solder for closing the vent. **Sal Ammoniac** for cleaning the steels. **Soldering Flux**—the prepared paste, or, Powdered Rosin, or, Muriatic Acid and Zinc.

The Solder-Hemmed Cap

Prepared soldering flux can be secured at any tin shop or plumber's. Powdered rosin may be used, or, it is well to have on hand a small amount of muriatic acid and a few zinc chips such as can be picked up where the workmen have been laying a metal roof, or soldering water pipes. Then, in an emergency, we can make our own flux.

Making Flux—The acid zinc mixture is prepared as follows: Take a small quantity—10c worth—of muriatic acid. Cut the zinc into small pieces (not more than one-half inch in diameter). Drop into the acid all the zinc it will dissolve. Let it stand until it quits sizzling, then pour off the liquid, dilute it one-half, and bottle for use in roughening the tin so the solder will hold.

TINNING THE SOLDERING TOOLS



Lay the Solder on the Sal Ammoniac in a Circle

It is very difficult to solder cans smoothly and effectively unless our tools are clean and bright. If the steel itself is not covered with solder, the solder sticks and runs over the steel, and does not make a good job of the can.

Untinned steels should be tinned in advance, ready for use.

Tinning the Capper—Break several strips of solder into short pieces and lay them in a circle on top of a large lump of sal ammoniac, or, if powdered sal ammoniac is used, put 10c or 15c worth into an old bowl, or a tin can cut down to about half its original height, and lay the solder on this.

Have ready a weak solution of sal ammoniac dissolved in water.

File and rub off the dirt and rough places on the steel until it is smooth. If no file is convenient, use a soft brick.

Heat the Steel Very Hot, Dip It Into the Sal Ammoniac solution to clean it of smoke, or any particles which may have adhered to it, **Set the Steel on the Solder** and sal ammoniac, pressing down and **Turning It Back and Forth** until all the surfaces are bright. The hot steel melts the solder, the sal ammoniac cleans the steel and makes the solder flow smoothly over it.

Continue pressing and turning until the lower edge of the steel is covered with solder.

Tinning the Tipper—The process of tinning the tipper is much the same as tinning the capper.

The solder may be laid on a lump of sal ammoniac, or a little powdered sal ammoniac may be placed on a bit of cloth, and bits of solder mixed with it.

The tipping tool, which is usually made of copper, should be rubbed or filed, to clean off all dirt and rough places. Heat it very hot, dip it in the sal ammoniac solution to cleanse it, then rub back and forth on the solder and sal ammoniac, turning it over and over until the entire surface is covered with the solder.

Turn the Capping Steel from Right to Left Until the Lower Edge is Covered With the Solder

It is not necessary to tin the tools every time they are used, but they should be tinned often enough to keep them bright.

GENERAL INSTRUCTIONS FOR SEALING

Set Cans Level—If cans are set slanting, the solder will run to one side and the contents may touch the cover at some point and so render sealing difficult.

Wipe Cans and Caps Clean and Dry—Any foreign substance will interfere with perfect sealing.

Apply Flux to Cap: Flux Paste—Prepared, non-acid flux which can be purchased from any hardware or plumber is a very convenient form. This should be applied by hand to the under edge of the caps before they are placed on the cans.

Applying Flux Paste to the Cap

Flux Paste will not flow as a liquid flux will and must be applied at the point where it is wanted. When the cap is put in place, the flux is where the solder meets the tin.

Liquid Flux—If we use liquid flux, put the cap in place, dip a small brush in the acid, and wipe quickly around the edge of the cap. Enough of the liquid will penetrate beneath the cap.

Be Sure Steels Are Well Tinned—Do not try to work without a well-tinned capper and tipper, or the solder will spread over the iron, instead of staying where it is wanted, at the joint of the can.

Have Steels Piping Hot—Experiment with a bit of solder. Notice how readily it runs with a hot steel, and how it clogs and lumps

and is unmanageable if the steel is cold; then you will understand the necessity of hot irons to work with.

Try to Make a Neat Joint—If the steel is hot and we work quickly, it is as easy to make a smooth, neat job as it is to make a poor one. A neat-looking can sells more readily than a botched one. It looks business-like, and it does not suggest trouble with sealing, nor spoiled goods—either of which suggestions reduces the price.

Capping Tin Cans

Do Not Try to Cap When Vent Is Closed—Because of the large surface to be closed at once when capping, a small opening is left in the center of the cap to provide an outlet for the steam. Then when the cap is sealed, some solder and a hot iron is applied directly to the opening to close the vent.

If after you have closed the vent you find a leak in the cap seal, punch a hole in the cap, make the cap seal perfect, then close the opening you made in the cover.

In tipping, or sealing the vent, the solder is in direct contact with the opening and the hot steel; in capping, the body of the cover is between the iron and the solder which rests on the can; that is why it is easier to seal the vent than it is to mend an imperfection in the cap solder.

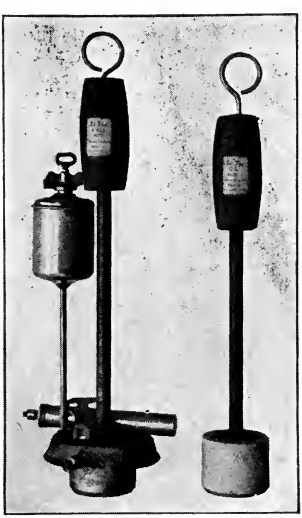
Test All Seals After Sterilizing—Stand cans cap-side down to cool. If you find a leak, punch a hole in the cap, solder the leak, then seal the vent made, and return the can to the cooker for five minutes.

CAPPING TIN CANS

Start heating the soldering tools in time so that they will get very hot by the time you are ready to use them.

The self-heating capper which has a small gasoline burner attached, is very satisfactory. It is light in weight, always hot, and prevents delays.

If we are using the ordinary capping tool which must be heated over the fire, we place it over the gas burner, on the bed of coals, or in the plumber's fire-pot, in plenty of time to heat it thoroughly through and through. The center rod is removed when we are heating the steel.



Two Styles of Cappers. The One on the Left Is Self-Heating

Assume that our cans are filled, the flux has been applied, the cap is in place, and our steel is hot:

Lift the Hot Steel with the Right Hand—Remember, the capping tool is heavy—it must be to be an effective tool for sealing—and now it is hot. Handle it carefully, not to strike anyone or anything, and do not drop it.

Put Rod in Place with Left Hand—The rod serves as a guide in handling the steel and may prevent accidents.

Dip the Steel in the Sal Ammoniac Solution—This is to clean the steel of smoke and particles which may have attached to it while heating, and so make the solder flow more smoothly.

Set Tip of Rod Over Vent—The lower end of the guide rod in the usual form of capping steel, has an inverted v-shaped (Λ) end, the two points of which are set on opposite sides of the vent hole.

Lower Steel to Can—That is, lower the capping steel itself until it rests on the solder—be sure it touches the cap rim at all points.

Give It Two or Three Quick Turns back and forth, then,

Hold the Capper a Second to Allow the Solder to Set

Raise Steel an Inch and Hold an Instant to Let Solder Set.

Cover Vent, Invert Can, and Watch for Leaks.

Press the Solder Against the Point of the Tipper

TIPPING TIN CANS

When canning in tin, we seal the cans at once. The tin will bulge out in cooking, but is strong enough to withstand the pressure, and when the contents cool, the can will come back into shape.

See That Cap Seal Is Perfect—It is impossible to repair leaks in the cap solder after the vent is closed. For this reason it is important to know that our cap seal is perfect before we undertake to close the vent.

As in the case of the capping tool, we have our tipping copper very hot. Dip the tipper in the sal ammoniac solution to clean it, hold the solder with the tip in the vent, press the steel to the solder, remove the solder quickly, and, if necessary, smooth the drop on the can with the tipping copper to make a smooth seal.

Work Quickly—Quick work is required to produce a good, neat seal.

CANNING REMINDERS

Begin with one product only.

Experiment with a small quantity.

Read carefully the instructions for canning tomatoes found on pages 23 to 29.

Do not try to follow two sets of instructions. Follow one faithfully.

Do not can a large pack without trying a jar or two to see that the seasoning and sterilizing have been properly done.

Be sure you have the necessary material, and that the equipment is in working order, products on hand, outfit in good repair, jars clean, and everything ready for rapid work and accurate results.

If you grow fruits and vegetables for canning, grow the varieties which when canned are of good color, flavor, and texture. Color, flavor, and texture affect palatability and price.

By the cold pack method, with a time-table showing the time required for cooking the different products, any fruit or vegetable that grows, meat, fish, and fowl, can be canned successfully.

In a week's work with a canner, it is possible to can a can of fruit, a can of vegetables, and a can of greens for each day of the year. Three hundred cans of tomatoes (or other quickly prepared, quick-cooking product) per day is not an uncommon task for one girl, even a small girl, with a canning outfit.

Do Not Omit Nor Slight the Blanch and Cold Dip—All vegetables should be blanched. Any fruit or vegetable that is blanched should be immediately plunged into the cold dip. A product may be blanched in boiling water or in live steam.

In addition to its influence in the keeping of vegetables, blanching shrinks the product by driving out the gases in the tissues. This space absorbs liquid when cooking, thus plumping the product and making it crisp and of better appearance. Try canning some snap beans and some apples blanched, and some unblanched, and see for yourself the advantage of the blanch for the appearance alone.

A Miscellaneous Group of Tools Used in Canning

Cleanliness—Absolute cleanliness is necessary, for health, for palatability, and also from the standpoint of keeping quality. A dirty pack will contain a large number of bacteria. The larger the number of bacteria, the more likely the product is to spoil.

Canning Outfits—While a regular canning outfit is an advantage, especially if one is going to can to sell, it is not necessary to buy either outfit or cans.

Any clean jars or cans which are on hand may be used, and the pack cooked in a pail, kettle, boiler, or any sort of clean vessel deep enough so that the cans may be covered with water.

Canning in Glass—If the covers to glass jars are screwed too tight, the rubbers will be forced out of place; if too loose, the water may exhaust. A rubber which bulges out may be too large. In that case substitute a new rubber and process for five minutes.

If the rubber bulges because the cover is screwed down too close, simply loosen the top, slip the rubber back in place, and tighten.

In using glass jars use ordinary common sense in handling them to prevent breakage.

By using hot jars and hot syrup or hot water for filling, jars may be set directly into boiling water. The hot jars also hasten the cooking.

Cooking—Different seasons produce different products. In extremely dry seasons many of the bacteria are transformed into spores, which are more difficult to kill than the ordinary bacteria.

Some products need to be cooked quickly, and so are best canned at a high temperature; the delicate flavor and texture of some is spoiled by intense heat, and such products are best when given a longer period of sterilization at a lower temperature.

For instance, peas should never be cooked at a steam pressure above 10 lbs., although corn may be canned at 15 lbs. pressure.

Over-processing is apt to give some products, such as sweet potatoes, pumpkin, and squash, a scorched taste and appearance.

Excessive shrinkage, an abundance of liquid in a can which was properly packed, or a feathery appearance, indicate over-cooking.

Under-ripe and over-ripe products and products canned without sugar need longer processing.

In general the regular instructions will produce an article that will keep and be salable, but remember that color, flavor, and texture affect palatability and price. If you wish to get fancy prices you must study your product, use judgment, and produce canned goods which, to the main essential that they keep, add the qualities of delicate flavor, attractive color, and firm texture.

Time-table—Boiling temperature varies at different heights, and in high altitudes the time for cooking in a *hot water bath outfit* must be increased as follows:

500 to 1500 feet,	use time-table as given
1500 to 3000 feet,	add 10 per cent
3000 to 4000 feet,	add 20 per cent
4000 to 7000 feet,	add 40 per cent

Labeling—It is important to label all goods. For tin cans, use the regular commercial label which fits around the entire can. The labels may be laid face down on the table, over-lapping so that the edges are exposed. With a large brush apply paste to the entire lot at once, simply pasting across the ends. Pick up a label, lay it around the can, overlap the edges and press them together so that the paste holds it in place.

A labeling contest is one of the amusements sometimes planned by canning clubs.

Storing—When the product is taken from the cooker do not set tin cans in the hot sun, or a hot room, nor pack them together

too close or they will retain the heat and overcook. Do not store in a damp place.

To retain color and texture do not expose canned products to the light. If canned in glass, wrap in paper.

Recipes—It has not been thought advisable to print a number of recipes. There are so many products to can that it would be impossible to include them all without making this booklet so bulky that it would not be valuable as a hand-book.

Most companies which manufacture canning outfits furnish recipe books and the leaflets distributed by the canning leaders in the Office of Extension Work, U. S. Department of Agriculture, Washington, D. C., may be secured free of charge.

SOME SPECIALS

Use Lacquered Cans or Glass Jars for Very Acid Products—Cherries, blackberries, raspberries, all red fruits, gooseberries, pumpkin, beets, squash, sweet potatoes,—these products lose color if canned in tin.

Rhubarb Should Always be Canned in Glass—It contains a very strong acid which will affect even the lacquered tin.

Acid Products—Tomatoes, rhubarb, gooseberries, and other fruits and vegetables with a high percentage of acid keep most easily. Such fruits and vegetables shrink most in canning.

Products Which Deteriorate—Apples and blackberries lose quality with age and should not be kept over from year to year. It is best to market them soon after canning.

Fruits Which Mould or Work may sometimes be saved if treated at once. Immediately they show signs of spoiling **loosen the covers** and cook **in the jar** for 10 minutes or longer as indicated.

Increasing cloudiness of liquid or fresh bubbles indicate spoilage.

Do not sell fruit which has been reheated to check spoilage.

Do not try to save vegetables which show signs of spoilage.

Protein Foods—Protein is a favorable medium for the growth of bacteria. Corn, beans, peas, pumpkin, squash, and sweet potatoes —all vegetables with a large protein content—require a high degree of heat or a longer period of sterilization. These products expand in cooking. Do not fill the cans too full.

Wilted Vegetables—Stand uncut in cold water until they are crisp.

Apples—Blanching greatly improves the texture and appearance of apples.

Apples and some other fruits have a tendency to turn brown when allowed to stand after they are cut. To prevent them discoloring, the pieces may be dropped into mild salt water, as they are pared and sliced. Let them stand for five minutes, then wash in clear water and pack.

Use a thin syrup. Do not can at too high a temperature.

Summer apples are not firm enough to keep well when canned. They cook up and lose flavor. They may, however, be canned for use within a short time.

Windfall apples may be pared, cored, and sliced, using water, and only a small quantity of that, instead of syrup, and canned for pies.

The No. 10, or gallon, tin can is usually preferred for apples.

It is suggested that housewives who can in glass will have used a part of their canned goods and have a number of empty cans on hand soon after the holiday season. At this time the winter

store of apples often begins to decay. Apples which will not keep uncanned may be canned in the empties and kept for late winter and early summer use.

Beets—To retain the color of beets leave three or four inches of the stem and all the root on while blanching. Blanch in steam instead of water. After blanching, the skin may be scraped off.

Corn—In canning corn on the cob select Golden Bantam, Country Gentleman, or some other small-cob corn, to save space.

If the corn is too ripe it becomes dry and discolored while processing; if it is under-ripe it is tasteless and lacks food value.

Be careful not to use too much salt in corn, as it seems to cause it to develop a "sour" taste. A small spoon of a mixture of two-thirds sugar and one-third salt is considered a good proportion.

Very hard water sometimes causes corn to turn yellow and may also spoil the flavor. Immature corn will sour more readily than corn which is at just the right stage.

It is best to can corn within a half hour after gathering, but if pulled with husks and a considerable piece of the shank left on, it will keep fresh for some time. Corn which has been gathered for some time is more liable to spoil.

Corn on the Cob—Husk, silk, and trim, cutting out any poor kernels. Cut off the tips of the ears if necessary to get them in the can. Do not leave any broken kernels, as they will give a milky appearance to the water in which the corn is canned.

Blanch as per time table, plunge into cold dip, and pack quickly, alternating tips and butts—first ear, tip end down; second ear, butt end down—and so on, so that they fit closely in the can and no space is wasted.

A quart Mason jar will hold four ears of Golden Bantam. Gallon (No. 10) tin cans are best for canning corn on the cob. They hold from seven to twelve ears each.

Salt and add from one to two inches of water. Corn looks better if the can is filled with water, but it tastes better if only a small amount is used.

When using corn canned on the cob, take the ears out of the liquid and put them in a steamer and steam until heated through, then lay in a medium hot oven for a few minutes to dry out before serving. If the ears are heated in water the corn is apt to taste watery.

Canning Corn Cut Off—Blanch on the cob as per instructions for canning corn on the cob. Cold dip, cut off (drawing the knife from the tip towards the base of the cob), pack, salt, and add a small amount of water.

Unlike most other products, corn swells in cooking so the cans should not be packed too full. Leave one-half to three-quarters of an inch of space at the top of the can.

Cauliflower, Cabbage, and Sauerkraut should be soaked in cold salt water 3 to 6 hours.

Greens—Blanch all greens in steam. Blanch or cook twenty minutes to reduce bulk. Pack close. Can in glass or lacquered tin.

Rhubarb—Blanch rhubarb after peeling.

Never can rhubarb in tin cans. Rhubarb contains an especially strong acid which will eat even the enamel-lined tin cans.

Squash and Pumpkin should be cut into sections, blanched 10 minutes in the shell, cold-dipped, then scraped out of the shell, packed and cooked as per time table.

Can in glass or lacquered tin.

FRUIT JUICES

Fruit juices furnish a healthful and delicious drink and are readily canned at home. Each home supply room should have, not a few quarts but an abundant supply, of canned fruit juices which, in addition to supplying flavoring for puddings, gelatins, etc., may be used freely as a beverage.

Grapes, Raspberries, and other small fruits may be crushed in a fruit press, or put in a cloth sack, heated for 30 minutes, or until the juice runs freely, and allowed to drip.

Strain through two thicknesses of cotton flannel, to remove the sediment, sweeten slightly, bottle, close by filling the neck of the bottle with a thick pad of sterilized cotton, heat to 160°, or until air bubbles begin to form on the bottom of the cooker, and keep at this temperature 1½ to 2 hours; or, heat to 200°, or until the bubbles begin to rise to the top of the water, and hold at this temperature for 30 minutes. Cork without removing the cotton. If canned in jars, close the jar partly, the same as when canning fruits and vegetables, and seal tight after cooking.

Fruit juices should never be heated above 200°, as a higher temperature injures the flavor.

A very good quality of grape juice may be made by selecting perfectly sound, whole grapes, picking them from the stems, washing them through several waters, then canning them as follows:

Place one pint of grapes in a 2-qt. jar, add ½ cup sugar, fill the jar with boiling water, and seal tight at once. It is not necessary to cook this.

Apple Cider may be bottled, heated to 180°, and held at this temperature for 45 minutes.

A small portion of grape, currant, or blackberry juice added to canned apple cider when it is served restores its pungency. Pouring it back and forth from one pitcher to another just before serving, so it can absorb air to take the place of that driven out by heating, also brightens its flavor.

SOUPS AND MEATS

Soup stocks, purees, consommes, and vegetable or meat soups are readily canned, and are palatable and economical.

Meats may be canned instead of corning or smoking, or corned meat may be canned. Chicken Fries canned in the late fall preserve the meat at the most delicious stage and we avoid the expense of feeding throughout the winter the chickens intended for the family meat supply. Game and fish may be canned to serve as a delicacy at a time of the year when it may be difficult or even impossible for most of us to secure them otherwise.

Be sure that meats for canning are in perfect condition.

Meat should be cooled quickly, the bone, gristle, and fat removed, then cut into convenient pieces. Sear and pack at once. Fill the jar with hot "pot liquor," or boiling water, season as desired, cover, and cook as per time-table.

Tough meats, old fowls, and other meats which require long cooking to make them tender, may be boiled a half hour or longer before packing.

Fish should be soaked in brine a half hour before packing.

Too high temperature injures the flavor, destroys the texture, and shrinks meat. For this reason many people prefer to can meat in a hot water bath instead of a steam outfit.

Write direct to the Office of Extension Work, U. S. Department of Agriculture, Washington, D. C., for detailed recipes.

SYRUPS FOR CANNING

Western canned fruits are sometimes thought to be superior to those marketed by eastern factories.

The excellence may be due, not to the fruits, but to the syrups in which they are canned.

All syrups may be made in the same proportion, the difference in density depending on the length of time they are cooked.

Heat slowly and stir syrup until the sugar is dissolved but not afterwards.

Less scum forms if the sugar is stirred into the water slowly instead of pouring the water over the sugar.

Proportion—3 parts sugar to 2 parts water, by measure.

Thin Syrup—Sugar simply dissolved; bring to boil. Use when you do not wish product sweet.

Medium Thin—Begins to be sticky. Use this for canning cherries, black raspberries, gooseberries, peaches, and plums.

Medium Thick—Catches over edge of spoon. Use this for strawberries, red raspberries, other delicate fruits, and extremely sour fruits.

Thick Syrup—Will hardly pour. This is for sun preserves, jellies, jams, etc.

Syrups may be made in advance but in that case it is best to heat them when they are to be used.

Most fruits are much better canned in syrup than in water, and the entire extra cost of sugar used in canning amounts to little. Besides it requires less sugar to sweeten fruit when it is sweetened while cooking than it does after it has cooled.

JELLIES AND PRESERVES

The best jellies are made in the proportion of three parts sugar to one part fruit juice. More sugar makes more jelly but it does not stand up as well; less sugar makes a tough jelly.

The principle which makes jelly jell is pectin. It is found in most fruits and some vegetables. Apples, the white of the citrus fruits, and carrots contain an abundance of pectin, that is why we add apple juice to some fruit juices which do not have sufficient pectin to jell alone.

It is not practical for the housewife to make pectin, but commercial pectin is now for sale and a small amount of it added to the juice of fruits which do not jell readily makes jelly-making certain.

Where pectin is used we depend upon the fruit to furnish coloring and flavor; the amount of jelly secured depends upon the amount of sugar used; that is, so long as there is enough pectin to use the sugar. Write the Office of Extension Work, U. S. Department of Agriculture, Washington, D. C., for recipes for making jelly with pectin.

Sun Preserves—Strawberries, raspberries, ripe gooseberries, cherries, etc., make good sun preserves. Peaches sliced or cubed are also good.

Select the fruit, sprinkle lightly with powdered sugar, cover with the thick syrup and set in the sun. Protect from insects, but do not cover close with glass, as this retains the moisture and prevents the proper cooking of the fruit.

A south wall for a background helps concentrate the heat.

Preserves from Dried Fruits — Dried fruits, such as apricots, peaches, etc., make very excellent preserves. They have a distinct flavor and are richer than when fresh fruits are used. Soak the fruit over night in a small quantity of water, then proceed as with fresh fruit.

Jellies, Jams, Preserves, and Fruit Butters do not need to be sealed, as there is enough sugar added to preserve them. They may be canned in open glasses or jars, and the top covered with melted paraffin. If desired, a small piece of paraffin may be placed in the bottom of the jelly glass when the jelly is poured in. The paraffin will float and will be melted by the heat of the jelly and form a perfect air-tight seal. The jars or glasses should be covered when cold with tin caps or with paper, so that dirt and dust will not collect on the food. A small rubber band may be snapped around the neck of the jar or glass to hold the paper in place.

CANNING TO SELL

If canning to sell, write to the Pure Food Commission, or Health Department, of your own state, and to the Bureau of Chemistry, U. S. Department of Agriculture, Washington, D. C., for copies of the Pure Food Laws and Regulations concerning canned goods to be sold.

Put your name—a trade name if desired—and address on each can so the buyer will learn to know your brand. Make the food so good that the customer will re-order. Canvass your trade in advance so that you will have a market for your products.

Cater to high-priced trade. Sell only first class canned goods. See that the container and the label are attractive, then ask a fair price.

Hospitals, Colleges, Boarding Houses, Hotels, Railroad Diners, the Neighbors, and the Home Grocer are all possible customers.

EXHIBITS

In preparing canned goods for exhibits, see that the cans are all of one size and make. This insures a uniformity that makes a better looking exhibit. Tops should be new and bright and the cans scrupulously clean and polished. A dark green crepe paper for a background and some ferns and flowers set among the jars add to the appearance.

HOME CANNING CLUBS

More than 500 Club Leaders and Home Demonstrators, working under the direction of the U. S. Department of Agriculture, are helping to spread the story of how simple and easy it is to do one-period, cold-pack canning at home.

There is no reason why there should not be a Canning Club in every district of every State of the Union, affording the farm girl an opportunity to earn money, to develop her business ability, and to meet in the social gatherings which grow out of Canning Clubs.

It has not been found advisable to organize a county in the club work unless the local authorities co-operate by appropriating a part of the money necessary to pay the salary of a County Agent.

The State Colleges of Agriculture co-operating with the U. S. Department of Agriculture are now paying part of the salary of a local or district leader in some communities where the organization is satisfactory.

The first thing to do is to work up enough local sentiment so that local funds are available, then present the matter to the Director of Extension in your state, or write the State Club Leader in care of the Extension Director, State College of Agriculture, your state, and learn what steps are necessary.

HISTORY OF THE HOME CANNING CLUBS

Mrs. Marie Cromer Seigler, who organized the first Canning Club

The first Girls' Tomato and Canning Club was organized at Aiken, South Carolina, in 1910, by Miss Marie Cromer, a teacher in the rural schools. It was intended to give girls in country districts an opportunity similar to that which the Corn Club offers to boys. Miss Cromer, who is now Mrs. Seigler, was assisted in planning the details of the work by County Superintendent Cecil H. Seigler.

Dr. Seaman A. Knapp, the great agricultural educator, was at that time Special Agent Farmers' Co-operative Demonstration Work, with the U. S. Department of Agriculture. He saw the value of this work both in saving food products now wasted and as a training school for girls, and promptly sent the Club a canning outfit, cans, and labels. Secretary of Agriculture James Wilson added a check for $100 and with this financial assistance forty-six girls began Home canning.

The first season they canned by the Cold Pack method more than 6,000 cans of tomatoes and many gallons of catsup and other products. Within a year 325 girls were enrolled and the work had spread to other states. In 1912, its value had become so apparent that it was decided to extend it through all the states, and now there are more than 500 demonstrators and several hundred thousand members.

Since the adoption of the one-period process, simplifying the work and shortening the time required, Cold Pack Canning has come into more general use, and it is estimated that more than 500,000,000 jars of canned goods were packed last year by home workers.

The work is not confined exclusively to girls, but boys, too, are often included in the club, and within the past year, the Mother-Daughter Clubs have been organized. These give the women of the community an opportunity to train in this work.

The First Tomato Club, Aiken, S. C., 1910

TIME-TABLE

For Scalding or Blanching, and Sterilizing in Cold Pack Canning

Use the Time Given Under the Type of Outfit You Are Using.
See note under "Time-Table," Page 52.

PRODUCTS	Scald or Blanch	Hot Water Bath Outfits 212°	Water-Seal Outfits 214°	Steam Pressure 5 lbs.	Pressure Cooker 10 to 15 lbs.
	Minutes	Minutes	Minutes	Minutes	Minutes
Fruits					
Apricots	1 to 2	16	12	10	5
Blackberries	No	16	12	10	5
Blueberries	No	16	12	10	5
Cherries	No	16	12	10	5
Cranberries	No	16	12	10	5
Currants	No	16	12	10	5
Dewberries	No	16	12	10	5
Gooseberries	No	16	12	10	5
Grapes	No	16	12	10	5
Peaches	1 to 2	16	12	10	5
Plums	No	16	12	10	5
Raspberries	No	16	12	10	5
Rhubarb (blanch before paring)	1 to 2	16	12	10	5
Strawberries	No	16	12	10	5
Citrus Fruits	1½	12	8	6	4
Apples	1½	20	12	8	6
Pears	1½	20	12	8	6
Pineapple	10	30	25	25	18
Quince	6	40	30	25	20
Figs	15 to 20	40	30	25	20
Some Specials					
Tomatoes	1 to 3	22	18	15	10
Tomatoes and Corn	T.2, C.8	90	75	60	45
Egg Plant	3	60	45	45	30
Pumpkin	5	90	50	40	35
Squash	5	90	50	40	35
Greens, Roots, and Tubers					
Dandelions	10 to 15	120	60	50	25
Spinach	10 to 15	120	60	50	25
Greens, all other kinds.	10 to 15	120	75	60	35
Asparagus	2 to 4	90	60	50	25
Brussels Sprouts	4 to 10	90	60	50	25
Cabbage or Sauerkraut.	6 to 15	90	75	60	35
Cauliflower	3 to 6	90	60	50	25
Beets	6	90	75	60	35
Carrots	6	90	75	60	35
Sweet Potatoes	6	90	75	60	35
Parsnips, Turnips, etc.	6	90	75	60	35
Pod Vegetables					
Beans (Lima or String)	5	90 to 120	90	60	40
Hominy	5	90 to 120	90	60	40
Okra	5	90 to 120	90	60	40
Peas	5	90 to 120	90	60	40
Corn (on Cob or Cut Off)	5 to 8	180	90	60	45
Meats and Soups					
Beef and Pork	See P. 55 for old meats	240	240	210	90
Poultry	See P. 55 for old meats	240	210	180	60
Fish and Shell Foods	3 to 8	180	120	90	60
Soup Mixtures	3 to 8	90	75	60	30

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